

*The
California
Sunday
Magazine*



UNCLAIMED

Two countries, thousands of families, and
a 16-year quest to identify a silent man in a bed

By Brooke Jarvis

Illustrations by Jules Julien





"He looks a lot like my son. My son disappeared the same year. I'm sure."

THE THREAD

ILLUSTRATIONS BY LIANA FINCK

When Carlos Morera, his uncle, and a few cactus enthusiast friends opened a diminutive and unassuming plant store in Los Angeles's Echo Park neighborhood, it quickly became a local gem. Despite almost no advertising or marketing (lacking an official name, it's referred to as the Cactus Store), the shop has nearly 13,000 devoted followers on Instagram and a loyal and diverse clientele. Megan Amram is an L.A.-based comedian and writer (she's the author of the parody book *Science... for Her!* and her TV credits include *Parks and Recreation* and *Silicon Valley*) who became well known through her prolific and darkly hilarious Twitter feed. Meeting for the first time here on The Thread, Megan and the Cactus Store crew chat about cacti collecting, how not to be a brand, artisanal toilets, and selling out.

**FROM: MEGAN AMRAM
TO: CACTUS STORE**

Hello Carlos, Jeff, Max, Christian, and Uncle Johnny! The Cactus Boys!!! That's what I'm calling you now. You're the CACTUS BOYS.

It's so nice to "meet" you all! You run a kick-ass store in Echo Park with one of the best websites I've ever seen: hotcactus.la. First and most important question: What is a cactus? I've heard rumors that cacti exist but never seen any proof IRL. Is it like a small dog? What do you feed it? Does it only come out at night? If I scream "Cactus, cactus, cactus!" into my bathroom mirror will it appear, or will I just have to find a new roommate?? Also, what is it like running a store?

I can't wait to hear all these answers and more!! You are my favorite Cactus Boys!!

xoxox

Megan

**FROM: CHRISTIAN CACTUS
TO: MEGAN AMRAM**

Cacti belong to a very special family of plants that grow without leaves. They are expert survivors, so it is easy to keep one alive. They are also very delicate, making it easy to kill a cactus. Cacti appeal to a broad spectrum of enthusiasts: those who like keeping their plants alive, those who like killing them, and everyone in between.



IT IS EASY TO KILL
A CACTUS.

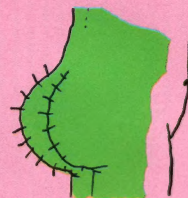
**FROM: JOHNNY CACTUS
TO: MEGAN AMRAM**

Running the store is like running in a very small square circle! No, actually it's great. Most people don't get to work in a place where the vast majority of clientele want to—not have to—be there. And you get lavished with compliments!

**FROM: MEGAN AMRAM
TO: CACTUS STORE**

Amazing!! How did you get into the cactus store business? Is it because your name is the Cactus Boys? And let me ask you a little about how you guys market your store. You're doing something very specific and obviously wanted to fill a niche in L.A. Why a cactus store, exactly?

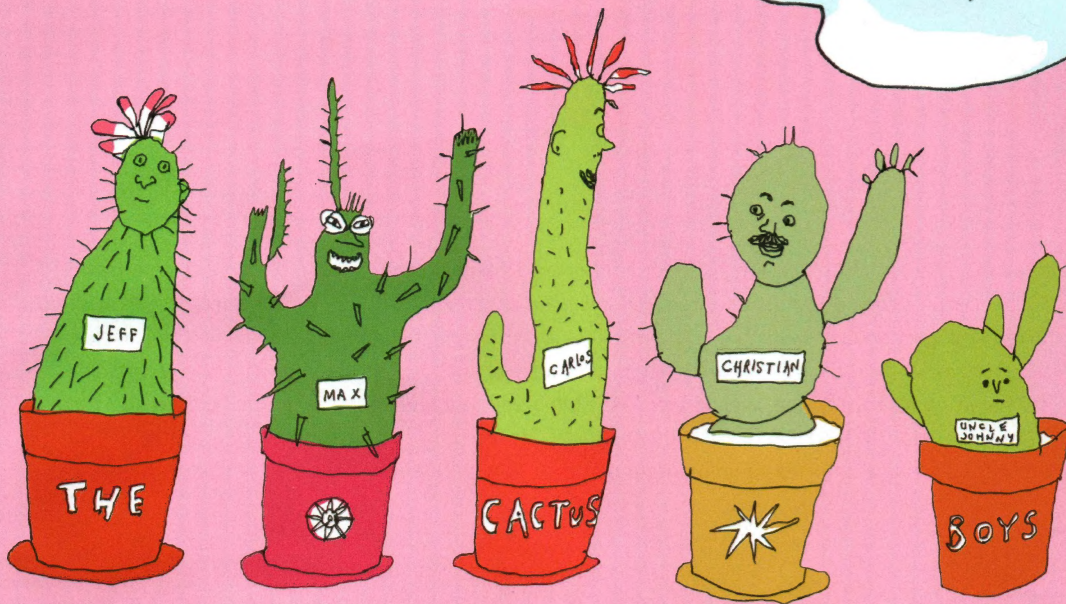
How do you connect with each person who walks in? Do you think about your (*makes gagging noise*) BRAND?! I think about my brand pretty constantly. I even wanted to sell cattle brands of my face so my fans could brand their big ol' butts with my profile picture. My fans all have huge butts.



BIG BUTT

MailChimp

GOD, I WISH I HAD
A CACTUS!!! <SOB>



"I think about my brand pretty constantly.
I even wanted to sell cattle brands of my face
so my fans could brand their big ol' butts with
my profile picture." —Megan Amram

MEGAN AMRAM

READ ON AT THETHREAD.CO



THE THREAD

ILLUSTRATIONS BY LIANA FINCK

Todd Masonis sold his Silicon Valley startup to Comcast in 2008 for a reported \$150 million and then took some time to travel, letting his sweet tooth lead him across Europe. After visiting a small, family-run chocolate factory in rural France, he was inspired to follow his sugary bliss, tinkering with chocolate-making in a friend's garage and eventually opening Dandelion Chocolate, an artisanal confectionery and factory in San Francisco's Dogpatch neighborhood. Martin Starr has never been a Bay Area techie, but he plays one on TV. After following his own bliss as a child actor—his big break as a teenager was on the beloved short-lived series *Freaks and Geeks*—Martin now stars in the HBO hit *Silicon Valley*, a fictionalized version of Todd's former world. In *The Thread* below, the two meet for the first time and find common ground in their very different professions.

FROM: TODD MASONIS**TO: MARTIN STARR**

Hi Martin,

I'm just going to rip off the Band-Aid here: I've never seen your show. I think it's because I spent all those years in the real Silicon Valley. Will it be like watching a home movie of myself in my 20s? Because that was a fun time, but I'm not sure I want to rewatch it. What's your take? Do you think your *Silicon Valley* is like the real Silicon Valley? Talk soon!

P.S. Did you get the chocolate bars yet?

FROM: MARTIN STARR**TO: TODD MASONIS**

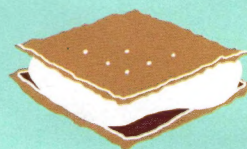
Hello, Todd. Pleased to e-meet you.

I don't have anything to compare *Silicon Valley* to other than my oftentimes extremely awkward interactions with real folks working in tech. But they have told me that the show feels true to life, a huge compliment.

I wasn't familiar with your background, but I did a little research on the interwebs and the broad strokes of your life are very intriguing to me—your tech business sale and postsale exploits, the world travel that led to a deep falling in love with chocolate. What a glorious adventure! I'm on board if you're planning another one of those trips. Schedule cleared. You're welcome. New friends, fast friends. I'm curious how your love of chocolate developed. I imagine you sitting with a sweet old French lady who pours you both homemade coffee well into the night as deep discussions of your life's passions guide her to beautifully

romanticized stories of chocolate and a simpler time of confectionery. That night you dream of wearing a chocolate crown and cape as you look out on your chocolate kingdom. Cut to: you reading this email sitting on a throne melting beneath your warm-blooded buttocks. How accurate is my imagination?

P.S. I haven't received your package yet, but I look forward to it. Especially the s'mores! I'm a sucker for marshmallow and chocolate.



S'MORE #1

FROM: TODD MASONIS**TO: MARTIN STARR**

Haha—I try to avoid the chocolate—derriere connection, for the obviously risky implications, but I actually read last week about a company in Japan that plans to scent all of their sewage removal trucks with a chocolate flavor. I'm worried they are going to ruin the smell of chocolate for everyone.

It's a really exciting time for chocolate—what happened to microbrew and coffee is happening to chocolate right now. When we started, there were probably only a dozen or so chocolate makers in the U.S. Now there are about 150, and virtually all of that happened in the past five years. Chocolate can have more flavor complexity than wine or coffee, and we're all about celebrating that.



POOP #1

MailChimp

MARTIN STARR

(PICTURED HERE
IN HIS ROLE IN
FREAKS AND GEEKS)



“I hope you don’t mind that I melted all four bars together and dipped marshmallows in the warm chocolate bath.” —Martin Starr

TODD MASONIS

ON HIS CHOCOLATE THRONE



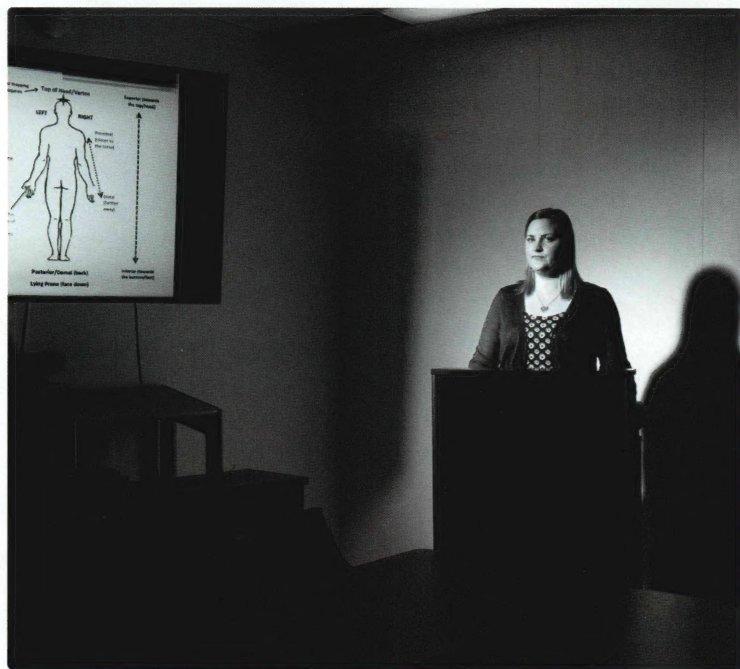
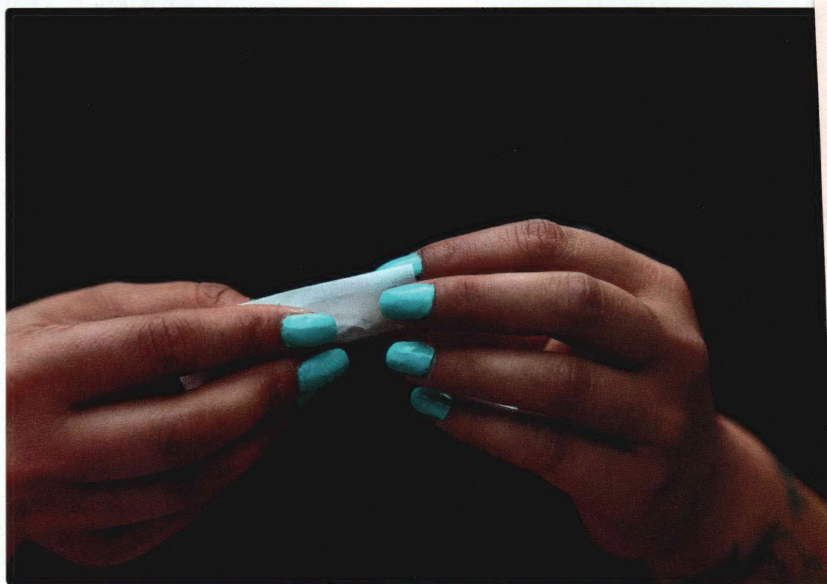
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"THOSE WERE OUR ENTREPRENEURS WE LOCKED UP."

Can Oakland, a new capital of legal weed, undo the injustices of the war on drugs?

By Alex Halperin
Photographs by Preston Gannaway

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THE INVESTIGATOR

Fingerprints. Eyewitness accounts. Bite marks. All suspect? The L.A. public defender's office decided it needed a scientist.

By Erika Hayasaki
Photographs by Dru Donovan



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MY DINNERS WITH HAROLD

How a shy Ph.D. in English literature revolutionized the science of cooking and became revered in the most famous kitchens in the world

By Daniel Duane
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Venezuela's days of upheaval

Photographs and text by Natalie Keyssar



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Does elevation trigger depression?

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One of San Francisco's best restaurants hires as many ex-felons as it can.

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Photographs by Justin Kaneps



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Director Mike Mills hunts for his past.

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Four ingenious designs found in Japan

By Wendy MacNaughton



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CORRECTION

The USS Cole was bombed in the Yemeni port of Aden, not "off the port of Yemen"; Navy forces are known as sailors, not soldiers ("Defend and Protect," October 2, 2016, issue).



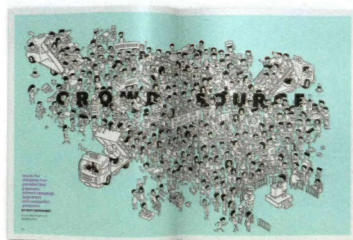
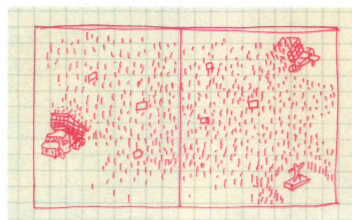
Photograph by
Ian Allen

Everyone here at *California Sunday* and *Pop-Up Magazine* loves working with Leo Jung, our creative director. We talk about stories for months, and then Leo gets his hands on them, and they come to life in ways we never imagined. (Did you spot the Easter egg he hid in our last issue?

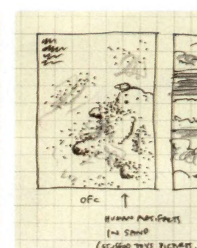
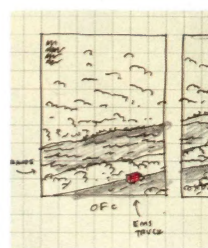
Those tiny illustrations by Jack Sjogren at the bottom left corner of each page — they were a flipbook.) Leo's art direction and design process often start in his sketchbook. I asked him if he might share some of his sketches from this year. — DOUGLAS McGRAY, EDITOR IN CHIEF



"Big Mouth (that's his artist name) had experience drawing large groups of people, which made him the perfect choice for our feature on *Crowds on Demand*."



"Daniel Clowes has had such an impact on the comic scene. I thought the most fitting tribute would be an illustrated portrait created by a number of comic artists."



"My awesome photo director, Jackie Bates, was excited to commission Michael Lundgren to photograph our story on border EMTs. We gave him some general direction, but he came back to us with some beautiful options to choose from."



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Every day at 4 p.m., employees at Cala — the acclaimed Mexican restaurant in San Francisco's Hayes Valley — gather around the communal table for a pre-service meeting. Jerome Boone, who has a shaved head and faded tattoos on his wrist and forearm, has folded an old menu on which to take notes of the floor manager's bullet points. Let guests know the sea urchin with nopal is on the menu — they'll be glad. With 163 reservations tonight, we won't be out of the weeds until 10 p.m. The raw oysters are Shigokus from Washington — push those, they're exceptional.

Gabriela Cámara, Cala's chef and owner, drops by and, with the end of her blouse, wipes fingerprints off the plate of ceviche that Boone and the staff are scooping up with tortilla chips. The floor manager asks them to describe the dish and identify the ingredient replacing the watermelon radish. Boone volunteers a description and gives the correct answer (celtuce, a Chinese lettuce). "Great!" Cámara says. "But don't forget to say the most important ingredient first: halibut."

Of the 12 front-of-house employees standing around the table, five are ex-felons, including Boone. Cala is one of the few restaurants in the country that has a policy of seeking out and hiring former convicts. Some have come through probation departments or recommendations from public defenders; others walked in off the street. They now make up about a third of Cala's 43-person staff. Everyone works at least 30 hours a week, receives benefits, and shares the house's pooled tips. "It's not a charity. It's a business," Cámara says. "I think it's a better business model for this type of food and service to have people committed full time and people who take care of what I need them to take care of, because then I take care of them."

One of Mexico's most revered chefs, Cámara has done something similar at Contramar, her Mexico City restaurant. "There, it happens in a less institutionalized way," she says. "I basically have a lot of people who have had a rough

Table Service One of San Francisco's best restaurants hires as many ex-felons as it can.

BY SUMMER SEWELL

Photograph by
Justin Kaneps

life, poor in every sense." In San Francisco, she faces a different challenge: Attracting and retaining qualified staff is extremely difficult because the city has become such an expensive place to live. She opened Cala, her first restaurant in the U.S., in October 2015. Eight months later, *Food and Wine* named it one of the top ten new restaurants of the year.

Cála's general manager, Emma Rosenbush, met Cámara while running a pop-up restaurant in Mexico

City. Rosenbush had once worked as a litigation assistant for the Berkeley Prison Law Office, where she became concerned about California's high rate of recidivism. She was not just receptive to the idea of hiring ex-felons, she could supply a list of organizations that could help. Rosenbush and Cámara started with an informational meeting at the San Francisco Probation Center, and so many people showed up that Rosenbush had to schedule 20-minute interviews over two days. By the end of the second day, Rosenbush had met with close to 40 candidates. They weren't asked where they were incarcerated, what their crime was, or if it was violent.

Rosenbush and Cámara winnowed the candidates to 25 and trained them in a classroom at the probation department. They started with the basics, like wine comes from grapes. Two weeks later, they ran a mock service in the café of Delancey Street, a nonprofit that provides vocational training for ex-felons and recovering addicts. "That initial run-through was really challenging," Rosenbush says. "The lack of experience was very clear."

Cála opened with 70 percent of its staff ex-felons, which Rosenbush acknowledges was overambitious. She's had to fire a number. "If you are late because you can't get it together," she says, "there's no preferential treatment given to anyone. They have to perform at a certain level or they can't work here anymore. Are you warm? Are you kind? Do you have the hospitality gene?" She says of Boone, "I could tell within the first 30 seconds he had it. So lovely and eloquent. I liked him right away."

Boone is so tall that when he sits he's careful not to let his knees skim the bottom of the table in Cala's dining room. His voice is deep, but he's soft-spoken, often ending sentences with a laugh. His cadence dwindles when he talks about catching more time during his most recent stint for conspiring to sell drugs in prison. He was incarcerated "for drug use and everything that comes along with that" for almost 20 of his 38 years. He sucks



Candidates weren't asked where they were incarcerated, what their crime was, or if it was violent.

manager at a corner of the communal table. He posed for a picture that day to commemorate getting a job as a busser. In it, Boone wears a blue argyle sweater and stands outside the door of the restaurant, hands in the pockets of creased dark denim, smiling into the sun. He started at Cala in May, just two months after his release; now he commutes more than an hour, four or five days a week, from a transitional home in Hayward.

"Have you ever seen a crumber?" he asks suddenly. From his back pocket he grabs the silver tool used to clear crumbs off tables between courses. "When they handed it to me, I was like, 'OK, I'm going to be digging or something?'"

Boone recalls his first day — running food and water, clearing and resetting tables, stocking service stations — with a laugh. "I was perspiring profusely," he says. "I just remember thinking, 'Oh please, don't sweat too much.'" He's since moved up to server, which required passing a menu quiz, but more important, he says, he's gained confidence in the dining room.

At 5 p.m., right after the pre-service meeting, diners begin to fill the restaurant. Boone stands at the computer, five identical pens lined up neatly in the pocket of his long black apron, and enters an appetizer order. His eyes move between the screen and the small notepad he's holding up next to it. He steadily bobs his head to a Celia Cruz song, as a means of focusing, it seems, while he searches for the right tabs. The promotion took about four months. "I've seen people do it in two months, but I still feel good," he says, not taking his eyes off the first table that is his tonight. §

his teeth. "Wow, that's rough to admit," he says. The longest he's ever been out as an adult is a year and a half.

Yoga and meditation classes offered at San Quentin, where he spent the last six years of his term, helped him with what he calls his "total overhaul." He completed a 12-step program

and academic classes. He also took a course in entrepreneurial skills called The Last Mile and through the program got the interview at Cala. "I didn't really have a shirt-and-tie-type outfit," he says. "I came in fitted as I could be, neat as I could be." He interviewed with Rosenbush and the floor

Jerome Boone (left) and Cala's chef and owner Gabriela Cámara

High and

Some call it the Las Vegas threshold. It's the sensation, when you drive out of Vegas down I-15 toward the Pacific, of becoming happier, lighter. Dr. Perry Renshaw attributes this phenomenon to how high you got in Vegas. But not like that. Vegas sits at 2,000 feet above sea level, and Renshaw, who studies the effects of altitude on emotional well-being, thinks that's the exact elevation where a person's mood starts to shift.

It's long been established that the states that span the Intermountain West, from Montana to New Mexico, have the greatest suicide rates in the country. According to the Centers for Disease Control and Prevention, someone who lives in Wyoming is five times more likely to take his own life than someone who lives in Washington, D.C. Researchers who study depression call the region the Suicide Belt.

Renshaw's research draws on the experiences of people like Mark Matthews. When Matthews moved from Maui to Taos, New Mexico, he immediately noticed a change. He traveled a lot for work, and every time he returned to the Sangre de Cristo Mountains — elevation 7,000 feet — he felt immense dread. "I'd come home, and a couple of days later, everything would get heavy," he tells me. "It was full-on depression, and there were no triggers, so I started to think, *Could it be the elevation?* It was the one factor that I couldn't account for."

A neurobiologist who focuses on brain chemistry in patients with psychiatric disorders, Renshaw moved from Boston to Salt Lake City in 2008 to teach at the University of Utah. Shortly after he arrived, he attended a talk by a suicidologist. "He showed this amazing map of how suicide rates differ across the country, and the Rocky Mountain states lit up," says Renshaw, who now runs a 15-person lab within the university's psychiatry department. Fifty-six years old, he has a hyperfocused gaze, and his speech still retains a no-nonsense East Coast cadence. "The thinking at that time was on gun

ownerships and the rural nature of those states, but to me, getting off the plane and hyperventilating, I thought it could be something else."

In Boston, Renshaw had studied how energy creation within the brain differed in people with mood disorders, and he wondered if the lower partial pressure at altitude could affect the creation of serotonin, the neurotransmitter that moderates mood and anxiety, and dopamine, the neurotransmitter associated with risk-taking behavior and adrenaline. To make sure his conjecture wasn't bunk, he set up a statistical regression to see how altitude correlated with suicide and with other known suicidal triggers. Of the nearly 20 factors he looked into, ranging from divorce rate to income to education level, altitude was the second most significant indicator of suicide risk.

After Renshaw's first paper was published in 2009, studies in South Korea, Spain, and Austria came to similar conclusions: Altitude and suicide rates tracked together, even in countries where the mountain cultures are significantly different from one another. Other research confirmed that mood can deteriorate quickly when you climb. A recent study by the Office of Naval Research found that after 30 days at altitude, Marines who had previously shown no signs of mental distress displayed levels of anger and fatigue that mimicked adult male psychiatric outpatients.

Renshaw's lab recently tested the theory using rats. A researcher kept animals at four different altitudes and then put them through a forced swim test, a standard measure for depression. Rats were dropped into steep-sided tanks, and those that had been exposed to a higher elevation stopped swimming much sooner than those who had been at sea level, an indicator of unhappiness. (The rats were plucked out of the pools before they drowned.)

The findings have met some resistance among mental-health researchers. Part of the skepticism stems from the truism that correlation isn't

Low

Does elevation trigger depression?

BY HEATHER HANSMAN



causation. There are numerous risk factors for suicide; singling out altitude, critics argue, is oversimplifying an extraordinarily knotty problem. Plus, brain biochemistry is itself highly complex and highly individualized. "There are some reasons to think altitude could have some impact," says Dr. Richard McKeon, the chief of the U.S. Department of Health and Human Services' suicide-prevention branch. "But at this point, it's not clear what the prevention implications would be."

Still, interest in Renshaw's research is growing. Two years ago, the Montana Department of Public Health and Human Services started recording the altitude of every suicide in the state. Karl Rosston, the agency's suicide-prevention coordinator, says they've found that the average elevation at which Montana's suicides occur is 3,508 feet and that about half of the people who took their own lives had moved from out of state.

Recently, Renshaw and his team started looking into why altitude might trigger depression. He thinks the explanation may lie with decreased oxygen, which starts to affect people right at that 2,000-foot Vegas threshold. At sea level, air consists of 21 percent oxygen. In Vegas, it drops to 19 percent, and at the top of Mount Everest, it's around 7 percent. For some people, when their brains receive less oxygen, they start to produce less serotonin and more dopamine. Renshaw says that, in animals, serotonin levels can decline by as much as 30 percent in a day at altitude. A similar drop in a human brain could lead to devastating depression.

But this is where the science gets tricky. Everyone processes serotonin and dopamine in his own way. If someone is prone to low levels of serotonin, as is about a quarter of the U.S. population, elevation will likely make things harder, but if someone has normal serotonin levels and produces a lot of dopamine, he might actually feel better at elevation. "We call it the Utah paradox," Renshaw says. "It's the happiest and saddest place on earth." §

Of the nearly 20 factors Renshaw looked into, ranging from divorce rate to income to education level, altitude was the second most significant indicator of suicide risk.





A Honeyed Punk Director Mike Mills hunts for his past.

BY CHRIS COLIN

Photograph by
Autumn de Wilde

The filmmaker, artist, and graphic designer Mike Mills was nosing his Volvo down Sunset, past a Del Taco and a Supercuts and other monuments to how L.A. destroys its real monuments. This was D.W. Griffith's stretch, Mills said, and it was in this neighborhood that directors like Griffith honed the language of film. Now it was parking lots and chain stores. He emitted something like a rueful chuckle, though his bemused blue eyes are too kind to pull off genuine rue. He watches *Casablanca* monthly. His sweatshirt was inside out. His copy of *Sisterhood Is Powerful* sits beneath *The Big Sleep* on his large plywood desk. On this day, he'd climbed into the Volvo to find a kind of ghost.

This Christmas will see the release of Mills's third feature film, *20th Century Women*. Set in 1979 Santa Barbara against a backdrop of Carter-inflected ennui and inchoate teen boredom, the movie is both a portrait of America nearing the end of a

weird century and a loose biography of Mills's own mother, played with sphinxlike contradiction by Annette Bening. A child of the Depression, she's an emotionally distant chain smoker but also a proto-feminist who longs to fly planes and dances to the Talking Heads. The ensemble cast features Greta Gerwig, Elle Fanning, Billy Crudup, and Lucas Jade Zumann as an alternately searching and phlegmatic teenage Jamie, aka Mills himself.

It's a fool's errand to look for conventional plot in a Mike Mills film, but roughly speaking, Jamie and his mother have run aground, and over the course of a summer, she recruits two other women — a boarder and one of Jamie's friends — to help nudge him

safely into the zone of manhood. The movie is both intensely domestic — it's mostly set within the ramshackle boarding house Bening's character runs — and strikingly broad, touching variously on skateboarding, therapy, second-wave feminism, parenting, Judy Blume, menstruation, and punk rock.

Punk rock was why Mills was driving west on Sunset. The afternoon's mission was a pilgrimage to a foundational punk site, a long-defunct club whose spirit infects the movie and infected Mills's adolescence. The place "only lasted a couple years, like everything great," Mills said. As a teen, he never made it to the club: His visit today was to a formative landmark that didn't directly form him and where, incidentally, the land wasn't actually marked in any way.

Understanding the cultural allure of the place requires an understanding of what 1970s Santa Barbara represented for young Mills. Picture a sunset. Beachy crimsons and oranges, the mellow haze of easygoingness, Fleetwood Mac and sandalwood and zinfandel jumbled together. Mills had wished to burn it to the ground. "It was a *honeyed* vibe, and that honey could be drowning. And if you're not relating to the honey, and everyone else is, it's really depressing and isolating," he said. Attila, the male model from the '80s with long blond hair and a romance-novel face, went to Mills's high school. So did Tom Curren, the pro surfer. "The gene pool and the *tan* pool — it was this very good-looking, tasty scene I could never really enter. Plus, teenagers can smell if another guy fights or not. They could smell that I didn't. It makes you all the better to punch."

Mills is quick to admit what's readily apparent in his presence: He's hardly the sad-luck sort. He's handsome and funny and thoughtful, and the life he's created post-Attila reads like a cultural best-of list. He's designed album covers for Sonic Youth and the Beastie Boys, made music videos for Air and Yoko Ono. He has a kid he adores with his wife, the writer, artist, and filmmaker Miranda July. (I sort of want to punch him now.) His

first feature film, *Thumbsucker*, came out in 2005, a quirky adaptation of Walter Kirn's novel of the same name. He followed that six years later with *Beginners*, which semifictionalized the experience of his 75-year-old father coming out of the closet after his mother's death. "One of the pleasures of *Beginners* is the warmth and sincerity of the major characters," Roger Ebert wrote. "There is no villain. They begin by wanting to be happier and end by succeeding." Somewhere in that window Mills also directed a feature-length documentary on anti-depressants in Japan, designed the cover of July's book, *No One Belongs Here More Than You*, and made commercials for Volkswagen, Nike, and Facebook. Mills has created that singular kind of career that nets him a passionate fan base and also intermittent insomnia over whether the powers that be will continue to allow such high jinks. (Mills's insomnia move: reading the play synopses in the front of *The New Yorker*.)

But if in retrospect Mills's trajectory seems charmed, it required a hard break with the one he was initially assigned. That break took the form of a skateboard, back when riding one marked you as strange. "It wasn't cool yet. Skating really made no sense to people — it was like being really into miniature golf," he said. Any edginess to it mostly centered on falling a lot. Mills remembers walking around during those years pulling his jeans away from his hips, so they wouldn't chafe his latest scabs.

From skating it wasn't a huge leap to punk. Someone's older brother would be playing something raw and caustic, or the skate park itself would — Mills was competing regularly, would eventually aim to go pro — and the weeks-long, pre-Shazam quest to track down the band would begin. "It wasn't just music. It was a way of relating to the world. There was definitely a lot of self-destructive, nontherapized behavior in that scene, and that should always be foregrounded. But it was also this feral freedom ride," Mills said. "In sunny, beautiful, privileged Santa

Barbara, I remember standing in my room in the dark, blasting punk. It was medicinal."

That medicine courses through *20th Century Women*. Zumann's Jamie has a mounting urge to break free from his unsatisfying relationship with his mother. Beyond the Santa Barbara honey, Jamie senses the formation of a bold new universe — bits of which would emerge regularly at L.A.'s crusty shows.

It was because of those nights, three-and-a-half decades ago, that Mills turned onto North Cherokee now and parked across from a solid metal gate. If his intel was correct, one of punk's biggest ghosts lay just down the alley on the other side. For an addled, glam minute, the Masque rivaled the Canterbury Apartments as Southern California's counter culture epicenter. X, the Germs, the Bags: These and other bands played in this dingy, graffiti-covered basement. In its short time, it became one of those hunks of square footage where music and gender and culture perceptibly shifted an inch or two.

We couldn't see through the gate. We pushed our faces up to the narrow crack between the edge and the adjoining building. As far as we could tell, the alley looked like an alley. Then a man who worked in the neighboring building walked up and was quickly pressed into service as a tour guide.

"Do you know if there was... a club here? A music club called the Masque?" Mills asked.

"Yes," he said. He had a high voice and spoke quickly; his shirt indicated he worked for the production company currently occupying the building. Getting behind the gate wasn't an option for us or the others keen for a peek, he said — one to two a day. Mills was stunned.

"Really?" he asked. "Two people a day come looking for it?"

"Yes."

"Old people like me?"

"Yes."

We stood awhile, staring at where the Masque seemed to have been, where something subversive had

"In sunny, beautiful, privileged Santa Barbara, I remember standing in my room in the dark, blasting punk. It was medicinal."

happened. Then there was nothing to do but go get Mexican food.

On the way, conversation turned to Mills's mother. "My mom was punker than all these punks. She had this anti-authoritarian aplomb, a swagger about her," he said. "My parents met in junior high school. My mom taught my dad how to smoke and skip school. That was in the 1930s. She'd go to punk shows with me, and it was like — imagine Humphrey Bogart at a punk club. Not at all fazed. You couldn't f--- with her."

It's a strange thing to make a movie. It's a stranger thing to make a movie about your mom and to spend five years doing so and to eat a burrito on a Monday afternoon just before the world watches it. "It's a radical public bath to take," Mills said between bites. We were in the patio area of a mostly empty restaurant. A fellow diner had perhaps recognized him, though Mills thought she was just admiring his hat. "Inevitably, some of your shortcomings will be pointed out in public. And then someone else will ask you about it for years."

Though *20th Century Women* often seems like a movie about a mother, other times it seems about a son. Sometimes it's about a house, other times a town, other times a moment in time. A delicate and indistinct current runs through it; 30 minutes into my first viewing, my cheeks were unexpectedly wet. During my second viewing, I was too distracted by the frequent laughs coming from the standing-room-only audience. The film is funny. But that's just one of the dimensions, and the nuance of Mills's vision can inspire a certain overprotectiveness. "Did they get it?" I asked him the night after the second screening. "Are they missing the more poignant layers?"

Mills smiled. He was not troubled by the possibility of misplaced laughs. The insomnia days were past him, too. The film no longer belonged to him; it was on its own feral freedom ride now. "The customer's always right," he said.

"I got that from McDonald's," he added after a moment. ☿



Days of Upheaval

PHOTOGRAPHS AND TEXT BY NATALIE KEYSSAR

I visited Venezuela's capital city for the first time in 2014 to witness a tumultuous transition. The country's president, Hugo Chávez, had died, his successor had won a narrow victory, and the economy — largely dependent on oil exports — was crashing. Violence, hyperinflation, and a shortage of basic necessities had become facts of daily life — and cause for unrest. By this summer, and my fifth visit to Caracas, the situation had turned desperate. ↓

POLITICS

Scarcity

In the working-class neighborhood of El Valle, hundreds of people gather at dawn and wait for a truck to arrive with packages of pasta. Despite taking numbers for their places in line, rule-abiders get elbowed out of the way by food resellers called *bachaqueros*, who bribe and threaten their way to the front. Supplies sell out, leaving hundreds stranded and out of luck. In the scrum, one woman is knocked unconscious and has to be carried out on a stretcher. Several bystanders yell that an officer punched the woman, but amid the chaos, it's hard to be sure.





Waiting for answers

Word spreads that there's a problem at the men's jail in Boleita, on the outskirts of Caracas. Relatives of the inmates — sisters, girlfriends, wives, and mothers — form a wall in front of the compound. Inmates send out anxious text messages. There are rumors of violent attacks against prisoners and of guards being taken hostage. The women describe the jail as a brutal place where the inmates must pay bribes for food and water. Many of the men have been forced to sleep standing up, they say, because it's so overcrowded. Police arrive, and the women demand answers. They stand their ground till after dark.

Opposing forces

The National Police, a branch of the Venezuelan security forces, fire tear gas upon a group of protesters who've attempted to block a highway. The demonstrators are led by a popular opposition politician and former presidential candidate. After winning a majority in Parliament a year ago, the opposition launched a long-shot campaign to recall Hugo Chávez's successor, Nicolás Maduro. In October, Maduro's government quashed the referendum, and in a recent speech the president declared that "neither through elections nor bullets" would his opponents oust him.





Tension rises

Meanwhile, food shortages fuel widespread riots in Caracas. Small blazes of rage in a simmering city. One day this summer, I'm forced off the moto-taxi that brought me to the base of La Vega, a barrio upon a hill. "That's all red zone. We don't go there," the driver says as people rush past us, fleeing the neighborhood. I hail another moto, and as we drive slowly into the barrio, we see a squad of National Police crouched behind a concrete wall, while officers with tear-gas launchers and shotguns advance toward a group of protesters demanding food. Gunshots ring out in the distance.





Dawn breaks

At 3 a.m., long after their two daughters have gone to bed, Richard and Elixa slip out of the house. By the time they reach the government-controlled market, a Costco-like behemoth, several hundred people are already assembled in the dark. Richard writes two numbers on his left wrist — 51 and 52 — designating his and Eli's places in line. To stay alert, he flags down a vendor selling thimble-sized cups of sugary coffee. At 9 a.m., they finally get their ration — two packets of pasta — and head back up the hill to cook breakfast for their girls.

See more photographs at californiasunday.com.

This story was supported by a grant from the Pulitzer Center on Crisis Reporting.



Two countries,

thousands of
families,

and a 16-year
quest to identify
a silent man
in a bed

Unclaimed

By Brooke Jarvis
Illustrations by Jules Julien

Because the beginning was lost,

his story always began in the middle, but there wasn't much to the middle either: Once upon a time, there was a pickup truck full of hopeful travelers, and then there was a crash. Bodies flew into the desert.

It was in California, near the Mexican border, and the other people in the truck had recently crossed over; it stood to reason that he had, too. One of them died, but he didn't. Inside his skull, though, his brain shook like an Etch A Sketch: any clear image of his past, erased in a moment.

He awoke in a San Diego hospital. His eyes sometimes tracked people across the room, and his arms and legs sometimes moved, seemingly involuntarily, but he couldn't speak or eat or even breathe on his own. "Persistent vegetative state," the doctors called it. He had no way to tell anyone what his name was or where he came from or how he felt or who should be called to hear what had happened to him. There was no way to be sure if he himself still knew those things.

He had only his body to speak for him: a young, round face, dark fuzz on his chin and upper lip; black hair and wide, brown eyes; no tattoos or notable scars, except for the one the wreck had given him. He'd carried only a phone card, purchased in Mexico, and a few pesos and dollars. By the best guess available, he was somewhere between 18 and 20 years old.

Whoever he'd been before, whoever he still was inside, to the world around him, he was now a human riddle, a blank slate on which to write a thousand possible names and stories. Some of the nurses at the hospital — as they turned him and washed him and tended his feeding and breathing tubes and stretched his limbs and changed his diapers — took to calling him Pancho, a nickname for Francisco. Others tried out name after name — Juan, José, Jesús — hoping he would eventually react to one of them in some way, but he didn't.

He needed a name for the forms and the charts and the billing, and so he was assigned one — a strange name whose origins have been lost in the nearly 17 years since the accident. It might have come from an auto shop to which the truck was taken or near where the accident occurred; some people heard it came from the truck's route, or it was simply random. However it happened, legally he became Sixty-Six Garage. It wasn't a good name — a social worker would later try unsuccessfully to change it, in an effort to

offer him more dignity — but it was his now, one more part of the mystery that he had become. Nurses began to call him Garage.

That seemed to be it: the whole story, and not much of one. His life would, in all probability, end in a bed like this one. It might last decades more — he was young and his heart was healthy — but it would be a life that few would choose for themselves or their family.

And yet, as his story — or really, the news of his lack of a story — spread, people began to contact the hospital, to ask detailed questions about his moles or his scars. Their own family histories also included a journey across the border interrupted by a mystery. Each had a son or brother or husband or cousin or friend who'd headed northward and then disappeared, leaving no answers about what might have happened to him, whether he was dead or incarcerated or suffering somewhere, whether he'd abandoned them. In the anguish of their uncertainty, they looked to the man in the bed and saw hope. They peered into his empty past and saw the possibility of themselves.

The first year, there were dozens of these families. Eventually, there would be thousands.

QUIERO PEDIRLES su ayuda para localizar a mis hermanos," one Facebook post began — I want to ask for your help in finding my brothers. It continued without pause for punctuation: "The last time they were seen was in Ciudad Juárez four years ago they said they would cross to the USA via Juárez and we never heard from them again we don't know if they crossed or anything." Within six hours, more than a hundred people had shared the accompanying photo of two teenage boys. In the comments, they told the sister their own locations, where they would continue her search: Tampico, Tamaulipas; Fort Worth, Texas.

There's a corner of the internet, a big one, devoted to efforts to track down missing would-be immigrants — or

to find the families of people whose bodies have been discovered but not identified — by sharing photographs and ages and information about last known whereabouts as widely as possible. Seventy thousand people like a page called, in Spanish, *Following Their Footsteps*; 140,000 follow one that translates as Missing and Unclaimed on

the Border. The group Searching for the Disappeared on the Border, with more than 125,000 members, lists its purpose as supporting searches for “loved ones lost while pursuing the American dream.”

Two years ago, a woman in McAllen, Texas, saw a picture in a Facebook group, whose name translates to Pathway to the North, that looked familiar. It showed a man lying in a hospital bed in San Diego, a breathing tube attached to his neck. She sent it to her cousin in Houston. Could this, she asked, be Gilberto?

Liliana Lara hadn't seen or talked to her younger brother, Gilberto Lara Cerón, in more than 14 years. He'd disappeared when he was 19, around the time that an accident turned a young man with a name and a past into the bed-bound patient known only as Sixty-Six Garage. Since then, she told me, “We know nothing about him, nothing at all.”

They'd grown up close, the two youngest of seven children, in a small city called Valle Hermoso, in the state of Tamaulipas, an hour and a half from the Texas border. They were often on their own. Their other siblings were significantly older, their father was gone (he had another family with another woman), and their mother, Ofelia, traveled back and forth to Brownsville, Texas, for work cleaning houses and taking care of her employers' children. It seemed she was always working. Gilberto was playful and outgoing, but he struggled with his parents' absence and could be rebellious, said Liliana. “He grew up with a lot of sadness.”

In her early 20s, Liliana moved to Houston. She got married and crossed with a visa and later found work as a school janitor and set up a neat household with ornate furniture and pink walls in a trailer park outside the city. She found her new country strange. People seemed to stay inside a lot, with their doors closed, not walking around talking to their neighbors as they had in Mexico. Gilberto, too, was experiencing a shock. Liliana was the

Whoever
he'd been
before,
whoever
he still was
inside, to
the world
around him,
he was now
a human
riddle, a
blank slate
on which
to write a
thousand
possible
names and
stories.

last of his siblings to leave, and now she was pregnant with a daughter, building a new life far away, and he was alone. He developed an interest in math and in the idea of finding his future in the United States. “He wanted a career,” said Liliana. “He had many hopes of coming.” The word she chose for hope, *ilusión*, translates not only as expectation and excitement but also as wishful thinking, delusion, mirage.

Before her brother was lost and she was initiated into the enormous subculture of the searching, Liliana thought little of border crossings: “It seemed easy.” But when she reported Gilberto missing, the Mexican Consulate told her there were many, many people in her position — people with no idea what happened to someone they love who set out for the border. Many migrants are abandoned along the way; sometimes they are kidnapped, and often families who've reported someone missing receive ransom notes and anonymous threats. Smugglers routinely tell their charges to leave all identification behind in case they are caught, which means bodies go unclaimed. In Texas, an anthropologist named Kate Spradley and her graduate students are trying to identify dozens of people whose bodies were exhumed from a mass grave; when migration routes shifted, the county, with no medical examiner and lots of bodies, found itself overwhelmed and simply buried them. The mass burial made headlines, but it isn't an unusual problem. In Texas, with its 1,200 miles of borderland, only 14 counties out of 254 have medical examiners. “When you die in Texas,” said Spradley, “you're usually just buried and kind of erased from history.”

Mexican consulates in the U.S. have staff members whose jobs are to try to find missing persons — their first step is usually to check detention centers, and their second is to compare forensic info to unidentified bodies. The consulates keep a DNA testing lab on retainer and maintain a database of the missing that includes more than 30,000 people. Each year, they solve only about 80 cases. Enrique Morones, an advocate for immigrants and the founder of Border Angels, a group that began with the mission of leaving gallons of water in deserts and canyons for thirsty migrants to find, says that when he visits small villages in Mexico and asks how many people know someone who died in the desert, only a few hands go up. When he asks how many know someone who planned to cross and then went missing, nearly every hand rises.

THE LAST THAT Liliana heard from Gilberto was a phone call from Nuevo Laredo, Tamaulipas, where the man who had promised to help him cross the border — a childhood friend of Ofelia's named Efrén — had left him behind, saying he would send someone back for him. While they were talking, before she had a chance to ask him for a phone

number or other way to contact him, the call cut out. He'd run out of credit on his phone card. He never called back.

After weeks with no word, Ofelia and two of Liliana's sisters set out for Nuevo Laredo to find Gilberto. They went to the hotel where he said he'd been staying and the plaza where Efrén had left him. After finding no sign of him, they checked all the other hotels in town. When those were busts, too, they called prisons and hospitals, and then they called morgues. County officials showed them photos of the bodies of unidentified young men found in the desert, but none were Gilberto.

It felt, Ofelia said later, as though she were physically carrying her own soul from place to place. "But I endured. I endured until we returned home."

That's when the most agonizing part — the helplessness, the wondering, the endless scenarios — began. "It's painful, day after day, to ask yourself, where might he be? Where? Is he alive?" Liliana told me. "Every day the hope dies a little, because you don't know anything." As the years passed, she began to think that he must have died; if he were still living, she felt, he would have found a way to get in touch. Ofelia disagreed. She was certain he was alive — she felt it in her heart, she said, and "the heart doesn't lie" — but the trade-off for that hope was guilt. Maybe he was angry at her for working so much, for being gone, for being harried and strict, and that's why no one had heard from him. Painful as the thought was — and to her remaining children, it seemed as though Ofelia was always crying — it was the possibility that she could bear.

Not knowing what happened to a missing family member "is a kind of torture that I wouldn't wish on anyone," said Chelsea Halstead, who works with the Arizona-based Colibrí Center for Human Rights, which has assembled databases of thousands of families who've reported missing people and of hundreds of bodies that haven't been claimed, and does the grim, slow, relieving work of making the connections between them. (She's frustrated that there aren't more resources. "It's not being handled as the mass disaster that it is, although more people died crossing the border than in 9/11 and Katrina combined.") Families she's worked with have gone to psychics, have been convinced by dreams, have fallen apart. Many have insisted that their missing person, against all odds, is alive and well but suffering from amnesia. "It's a very specific kind of pain," Halstead said. "Everything becomes possible. When you don't have a truth, you create your own reality."

When Liliana saw the photograph of the man in the bed, her daughter — a newborn when Liliana got that last call from Gilberto — was on the verge of celebrating her *quinceañera*. Liliana also had three sons by then. To her

children, their uncle was a ghost. But now, this picture, this damaged but living, real person looking up at her — there was definitely a resemblance.

Liliana sent it to her mother, to her siblings, who responded with immediate joy: They had found Gilberto. "It's him, it's him!" Ofelia cried. He might never be able to speak to them, but at least they knew. "One part is pleasure, but another is also sadness, right?" Liliana's brother, Graciano, later told a television reporter. "Because ..." he paused to rub his eyes, which were full of tears. "Well, to find him like this" He tried to continue, but no words came.

"Only God knows," he finally said.

THE WOMAN who took the photo never liked the name Sixty-Six Garage. She called it *feo*, both ugly and insulting. After a few months of visiting the man in the bed, she decided to call him José, after Joseph in the Bible: "Joseph passed through many difficult moments but ended up back with his family."

In July of 1999, Paula Lemus and her brother Gabino went to a hospital in San Diego to visit a family member who was sick with cancer. Gabino overheard some nurses down the hall talking, and he started asking questions; soon he went to Paula and told her, "There's a guy next door. They say he crossed the border and had an accident and lost his memory. He can't walk; he can't talk; he knows nothing of his family."

Paula suggested that they ask permission to visit him — "Who knows?" she said. They'd grown up in Guerrero; maybe they'd get lucky and recognize him.

He didn't look familiar, but Paula was overwhelmed by how vulnerable he seemed, how in need of her protection. She had a young daughter of her own, and she thought immediately of this man's mother, of how she might feel if she could see her son like this. "It wasn't pity I felt," she told me later, "but the desire to never leave him alone, ever."

She took his hand. "I promise I will keep visiting you," she told him in Spanish. "I won't forget about you."

For the next 15 years, unless she was out of town, Paula was there, one to three times a week. She read to him from her Bible, prayed aloud for him, asked him whether he was comfortable, whether he was sad. She told him what was going on in her life, what was happening on the news, who was running for office; she kept him up to date on a world whizzing by without him. She brought members of her church and her own friends and family to visit him, though none had her stamina. Few returned more than once or twice.

Paula knew from the beginning that the doctors said he would never recover, but still she developed her own set of unlikely hopes for him. "One day, you're going to raise yourself out of this bed," she'd tell him, "and we'll speak normally." The nurses often left the TV on in his room, in English, and she joked that when he got his voice back he'd have forgotten Spanish. She was convinced that he answered her questions in a private language: two blinks for no, one for yes. Though they were close in age, she began to think of herself as a kind of mother to him, as well as a sister. "It's like he's my family. He *is* part of my family," she told me. "I love him." She said he smiled when she entered his room and seemed upset when she left. "Don't despair," she'd tell him. "One day your family will arrive."

About a year after the crash, Univision did a segment on the man in the bed; because Paula was too shy to go on TV, she asked a friend from her church, who had also visited the hospital, to speak to the cameras. He told them that the patient made him think of his own brother, who had gone missing ten years earlier. He wasn't alone: After the segment aired, a wave of families contacted the hospital.

"That happens every time a story happens. Anybody who has a missing son or husband or whatever — I've gotten calls from Ecuador, from Guatemala, from Mexico," said Ed Kirkpatrick, the medical director of a nursing facility in Coronado where the patient now lives. Kirkpatrick discouraged families from coming in person, to keep the

nursing home from becoming "a circus." "We're good at health care," Kirkpatrick told me. "We're not good at identification, CSI-type things." Instead, he asked them to send pictures and describe the particulars of their case.

Meanwhile, Paula was doing outreach of her own. On Facebook, she posted a photo that she'd taken of the man she called José and asked her friends to share the post. "It's very important that we help him to reunite with his family, which may think that he's dead or that he forgot about them, when in reality he's the one who appears to be forgotten," she wrote. She shared it in a group dedicated to finding missing persons, and it began to take off. She got, she estimates, dozens of responses from sisters, mothers, wives. She replied to them all. But most, in their eagerness, had overlooked or ignored crucial details, such as the date of his accident, that made it clear he couldn't be their match. Their answers were elsewhere, if they were anywhere at all.

There's a corner of the internet, a big one, devoted to efforts to track down missing would-be immigrants by sharing photographs and ages and information about last known whereabouts as widely as possible.

THE ONLY CASE that matched came from a woman in Houston who'd lost her brother, Gilberto — the dates lined up, and the photo she sent looked hauntingly familiar. In return, Paula sent Liliana a YouTube clip of the Univision segment from 2000, the footage that would be most similar to the brother she'd known. (Though, as the years passed the man in the bed by, they seemed hardly to touch him. He was now in his middle or late 30s, and on his chin his beard had fully grown in, but his face — away from sunlight and the daily creases of laughter and anxiety and conversation — still looked nearly as smooth and unwrinkled as it had when Paula first met him.)

Liliana shared the video with her mother and siblings; it made them even more certain that they'd finally found Gilberto. Paula, who was thrilled to find a match after so many misses and who saw a likeness between the family members and the man she called José, was convinced. So were the people who'd gone with her to visit him. After they saw a picture of Gilberto next to one of the man in the bed, so were the commenters on Pathway to the North, who were following the case avidly. (Or most of them were convinced. Liliana got messages from people who thought the whole thing was a hoax, since it was inconceivable

that the U.S. would go to such effort to keep someone without papers alive.)

Only Liliana had doubts. Something about the image didn't feel right; she couldn't explain precisely what. She prayed about it, asking God why she couldn't share in the certainty of the others.

She went to the Mexican Consulate in Houston with both photos. That consulate called the one in San Diego, which called the nursing home. The family sent Gilberto's military ID, which had a fingerprint they hoped could be compared to the man in the bed's. The print on the ID turned out to be too smudged, so the consulate sent swabs for a DNA test. Both Liliana and Ofelia swabbed their cheeks and then waited.

Months passed with no answer. Paula called Texas from the man's room and put the phone on speaker; she told the family he reacted to Liliana's voice with what looked like pure desperation, trying to leave the bed. The



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family, meanwhile, tried to make peace with the state in which they'd found him. Liliana's nephew Adan wrote and recorded a *corrido* — a traditional folk ballad, usually about oppression or injustice — addressed to his uncle:

A desperate mother
Looks for you by land and sea.
Doña Ofelia is very sad,
And she's getting sick.
She's so tired from searching for you.
She's waiting for you in your house.

Your inconsolable siblings,
Their hearts are in pain.
They're desperate to see you.
Hug yourself passionately.
Many friends and family
Wait for you with devotion.

Finally, Ofelia couldn't stand the wait any longer. She didn't have the papers to go to San Diego herself, so she told Liliana to go. You'll know the truth, she said. "You truly know your brother; you know everything about him." Liliana prayed again: *If he is Gilberto, please let me know. Let me recognize him and be sure.*

Paula met Liliana at the airport, and they hugged like family. They went directly to the nursing home. The man in the bed was asleep when they entered the room, but Paula woke him up and told him he had a visitor.

Liliana called him by her brother's name. "It's me, Lili, your sister," she said. "Do you remember me?" She held his hand and felt him grasp hers, hard.

But she believed she already knew: This wasn't her brother. There were immediate signs — his skin was a somewhat darker shade than Gilberto's, despite years spent inside. He was missing her brother's long eyelashes. Most of all, there was an indefinable gut feeling that this was not the boy she'd helped raise.

From his bedside, she called her family to deliver the news. They seemed not to hear her, not to accept what she was saying. He must, they said, just look different because of all the time, because of the accident, because of the medicine. And if he wasn't Gilberto, where was his real family, where had they been all this time? Ofelia, sobbing, rejoiced that her family was reunited at last. So did the commenters on Facebook. "Everyone was sure," said Liliana, "except for me in my heart." She stayed with the man in the bed all that day, slept at Paula's house, then returned to his bedside the next day and the one after. Paula remembers her crying nearly the whole time.

WHILE THE FAMILY WAITED for the results of the DNA test, they agreed to be interviewed on Univision for a segment following up on the one from 2000. Meanwhile, a

The consulates keep a DNA testing lab on retainer and maintain a database of the missing that includes more than 30,000 people. Each year, they solve only about 80 cases.

journalist in San Diego, Joanne Faryon, wrote about the unidentified man in Coronado. The families who had been in touch before, it turned out, were a trickle compared to what was to come; the coverage, said Kirkpatrick, "opened the floodgates to everybody who has somebody who's missing," and the nursing home "got slammed." Thirty families were so sure that they filed official requests with the Mexican Consulate. On Facebook, Paula spent the next four months replying to messages. "It was from the morning to the evening. I thought it was never going to end." She was shocked to discover how many families were out there, looking for answers. "I realized it's not a lot," she said. "It's thousands. It's an enormous amount."

Everyone told Paula "almost exactly the same thing. 'He looks a lot like my son. My son disappeared the same year.

I'm sure.'" Once again she felt the responsibility to reply to every single person, to leave none of them in limbo, and so she spent hours on the phone with an endless parade of mothers and sisters. Most were clearly grasping: The photos didn't match or the dates were wrong. But they called anyway, and Paula understood why. "They wanted to believe."

To person after person, she offered the same gentle phrase. "*No te quiero ilusionar*," she'd say. I don't want to give you false hopes.

Later, in an attempt to help all those families, Paula started her own Facebook group. She gave it the rosy name Reuniting Families. But the photos she shares — most are grim close-ups of the faces of corpses and of their tattoos and possessions — leave little hope for happy reunions.

Months after Liliana's trip to San Diego, she was back in Texas, cleaning the school where she worked, when her cellphone rang. It was the consulate. The results were negative. "He's not your brother," the voice on the phone said.

Despite all her misgivings, Liliana found that she still had hope to crush. She'd wanted so badly to be proven wrong. When the consulate hung up, she called Ofelia, who had already told her neighbors about the miracle of finally finding her son. "I wanted to find him," Ofelia told me later from Valle Hermoso. "Alive, dead, crazy, blind...." Her voice broke. "I wanted to find him."

Liliana called each of her siblings. "Only God knows where Gilberto is now," said one. Liliana began to think that maybe this had happened for a reason, that her family was supposed to help spread the story. She posted the man's photo — eyes closed, breathing tube attached — onto Facebook, describing, in Spanish, a young man "who

suffered a terrible accident while seeking the American dream.” He wasn’t her brother, but she had no trouble identifying with his real family. She asked people to help share the photo, writing, “I know that miracles exist.”

More than 310,000 people posted the photo to their own pages, and Liliana was soon inundated with questions from eager families. One woman, who had two missing sons, told Liliana that she’d gone to San Diego, but the nursing home had turned her away. Another, from Jalisco, sobbed into the phone as she told Liliana that her son had crossed the border with a group of 30 people. Three died and three — her son among them — went missing. Maria Guzman, from Guanajuato, told me that she began to tremble as soon as she saw the photo in her Facebook feed; she was absolutely certain she was looking at her missing cousin. (Since he left, she said, “we know nothing about him.” A familiar phrase.) In fact, her cousin had last communicated with his family in 2005, six years after the man in the bed last

spoke. Frank Bermudez thought the picture looked like his brother, missing for 15 years, but the photo that he sent me, of a man with a thin face and lighter, softer hair, bore little resemblance to the man in the bed.

IT’S A BORDER ANGEL, TOO. Paula told Enrique Morones of Border Angels when she met him at one of the group’s events. At first he thought she meant she’d been a volunteer, but then she told him about the man in the bed, about visiting him year after year. Joanne Faryon, the journalist in San Diego, had put Morones in touch with the nursing home, and soon there was a gathering of officials. After all the years of uncertainty, all the questions, people with power now wanted the case solved.

Morones, who is well-connected in Washington, took the matter directly to the national chief of the Border Patrol, who asked the San Diego sector’s investigative arm to make the case a priority. The team went to the nursing home and scanned the patient’s fingerprints onto a laptop, which they ran through their database without luck. But when they took prints with paper and ink and put them into an older system, they got a hit. The prints matched those of a young man picked up by the Border Patrol for illegally crossing, just a few months before the accident.

The man in the bed’s fingerprints had been in the system all along. Right next to them was a birthdate, a name. An answer.

Now it was a matter of the consulate tracking down his family and explaining what had happened. His parents, who were from the Oaxaca area, were no longer living. But his sister was alive and willing to take a DNA test to remove

any lingering doubt. She was in shock. She hadn’t spent the past 16 years on message boards searching for him; after a long silence, she had assumed that her brother was dead. Just before last Christmas, the DNA test came back positive.

In February, she visited the room where her brother had been living for the past decade and a half. She held his hand, just as Liliana had, just as Paula had. Remedios Gómez Arnau, the Mexican consul general in San Diego, went with her. “There were tears, as you can imagine,” she said — not just from the man’s sister but also from the staff, who were grateful to know whom they’d been caring for all these years. They couldn’t release his name — his family requested privacy — but they could call him by it, could use it among themselves, could finally put the name Sixty-Six Garage behind them. They could even celebrate his birthday, which had passed unnoticed 16 times. They wheeled him into the activity room and set up a video conference with his sister. There was cake, though he couldn’t eat it.

Paula learned about the DNA results when she walked into the man’s room one day and saw his true name on a piece of paper at the end of his bed. She celebrated for him but thought she saw him grimace when she called him by the new name. “You prefer José, don’t you?” she asked and says he blinked once for yes. She decided to stick with the name she had given him.

Soon after, she found out she wouldn’t be able to visit him anymore. Now that he had a family, nursing home staff told her, they were restricted in how they must protect his privacy and to whom they could allow access. Paula feels as though she, too, has lost a member of her family. Sometimes she gets a ride to Coronado anyway, just so she can spend a few minutes looking through his window from a parked car.

Liliana is glad that the man in the bed found his family; she didn’t like to think of him out there in California, alone. She doesn’t say what is surely echoing in her mind: the question of where Gilberto is and whether he is alone, of whether more miracles might be possible. She calls her mother in Valle Hermoso, and Ofelia’s voice crackles through to Houston. “Every day,” Ofelia says, “I ask God that one day, before I die, I’ll see him again.”

The photograph of the man in Coronado — the one that Liliana put on Facebook after she found out he wasn’t her brother, the one that’s been shared more than 300,000 times — is still live on the site. Among families like hers, it still bears a resemblance to hope that’s convincing enough. Nearly every day, someone new reposts it to her own wall, believing, or wanting to believe, in its possibilities.

But the photograph’s story — of a living but unclaimed migrant — is no longer true. Like so much else, it’s become an ilusión. §

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JULES JULIEN is an illustrator based in Amsterdam. His work has been shown in solo and collective shows in Japan, Europe, and the United States.

"THOSE
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CAN
OAKLAND,
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UNDO THE
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WAR ON
DRUGS?

BY

ALEX
HALPERIN

PHOTOGRAPHS

BY

PRESTON
GANNAWAY

**NINA PARKS WAS WORKING AS A MUSIC VIDEO
PRODUCER IN 2014 WHEN HER BROTHER WAS ARRESTED
AND SENTENCED TO A YEAR AT
NEW YORK CITY'S RIKERS ISLAND
FOR MARIJUANA POSSESSION.
HE WAS ON THE VERGE OF LAUNCHING
A CANNABIS DELIVERY SERVICE IN
THE BAY AREA AT THE TIME. "ALL THE**

paperwork was put in," Parks said. "He had branded it and gotten all the packaging, the promo stuff, the clothing." Parks, a Filipino American with botanical tattoos twisting down her left arm, had spent much of her career working with formerly incarcerated youth. When she spoke to her brother in jail, he sounded dispirited, worried that he'd be shut out of his own company or pushed into the black market. "It was imperative that I find avenues to advocate for him," Parks said. She decided to take over the company and today is the CEO of Mirage Medicinal, a delivery service based in her native San Francisco.

She's also a founder of Supernova Women, a group created to ensure that there's room for women of color in legal marijuana, which is arguably the country's fastest growing industry. Supernova began last year after Parks met a dispensary executive named Amber Senter at an industry conference in San Francisco. "I was looking around the room, and it was all just imported white men in suits," Parks, 32, said. "Amber was the only other person of color in the room. She was over there rolling up some weed, and I'm like, 'Yo, me too!'" Senter had recently moved to Oakland to access medical marijuana for her lupus; she'd spent years growing her own in Georgia, and after moving to the Bay Area, she took a position as chief operating officer of Magnolia, an Oakland dispensary. The two quickly bonded, and a few months later they sat down at a kitchen table with a lawyer friend to found Supernova, which now offers cannabis business workshops and advocates for policies supporting minorities, women, and ex-offenders.

Last year, U.S. legal marijuana was a \$5.4 billion business, and that figure is expected to quadruple by 2020. According to one 2016 estimate, the industry and supporting businesses already employ between 100,000 and 150,000 people in the U.S., more than General Motors. California's recent vote to legalize recreational marijuana — medical marijuana has been legal in the state since 1996 — created the world's largest legal market and sent the clearest signal yet that widespread legalization is inevitable. (Seven other states legalized medical or recreational marijuana as well.)

The most glaring irony of legalization is that for decades black and Latino communities have disproportionately suffered under harsh drug laws, and now, with those laws in retreat, the entrepreneurs cashing in on the booming business are overwhelmingly white. California, like the four states that had previously legalized recreational pot, imposes restrictions on convicted felons joining

the industry; some states also require business-license applicants to demonstrate cash reserves of hundreds of thousands of dollars or more. Both criteria weigh heavily against minority entrepreneurs seeking to enter the industry.

In June, I met Parks and several other Supernova members at the East Bay loft office of the marijuana delivery service StashTwist. Andrea Unsworth, a former bond analyst for Moody's who owns StashTwist, was preparing the downstairs space to host cannabis yoga sessions. A few low-slung seats and an ashtray suggested the office could double as a lounge. After we settled into chairs, Parks was quick to point out the absurdity of keeping the people with the most knowledge of the industry from participating in it. "If you have been arrested for cultivating, transporting, or selling cannabis, you are going to be locked out of the business of cultivating, transporting, and selling cannabis?" she said. "It doesn't make any sense whatsoever! If anything, how are you even supposed to learn that skill set? Who has that résumé?"

Supernova had recently been focusing its efforts on Oakland. A diverse city with a history of tolerant pot laws, Oakland was hoping to lead the way in creating an industry that compensates for the racial inequalities of the past, but it was struggling with how to translate decades of injustice into still-hypothetical profits. Weeks earlier, Oakland's city council had passed a remarkable, first-of-its-kind "equity amendment," guaranteeing 50 percent of cannabis business licenses to former marijuana felons and to residents of several neighborhoods considered especially damaged by the war on drugs. In public statements, Oakland City Council member Desley Brooks, who introduced the amendment, made clear that her intention was to foster minority-owned businesses. "When you look at the cannabis industry here with respect to the ownership, it is predominantly white," she said from the podium in the drab chamber of Oakland's city



Left to right: Supernova members Andrea Unsworth, Nina Parks, Sunshine Lencho, and Amber Senter

council. People of color “are tired of simply being employees. When do they get an ownership piece of the pie? That is what this is about.”

But the amendment raised concerns about who would benefit and how; critics worried that it would force companies to leave the city. Unsworth, a San Diego native whose cousin was put in jail after starting his own cannabis business, told me that she appreciated the intent of the amendment. “Those were our entrepreneurs we locked up!” she said with a wry laugh. “There is a definite need for and a call for — people don’t like to use the term *retribution*, but you are in fact trying to undo a severe injustice.” But Unsworth, a black woman in her 30s who voluntarily pays business tax in Oakland, wouldn’t qualify for an equity permit since she doesn’t live in one of the selected neighborhoods. “I’m in the general pool with everyone else, who are probably more well-capitalized,” she said. “So we’ll see.”

Supernova had drafted proposals to modify the amendment. Though the group’s leaders didn’t agree with the wording of the law, they agreed that the conversation happening around it was crucial. “Just as a human being looking at: What does *equity* mean? What does *justice* mean?” Parks said. “I can’t responsibly participate in this industry without addressing that.”

“THERE IS A DEFINITE NEED FOR AND A CALL FOR — PEOPLE DON’T LIKE TO USE THE TERM *RETRIBUTION*, BUT YOU ARE IN FACT TRYING TO UNDO A SEVERE INJUSTICE.”

TO INSIDERS, Oakland is both a spiritual home to the cannabis movement and an obvious hub for commercial pot in California, halfway between the northern growing regions and the immense Los Angeles market. The push for legalization, which has a strong history here, is a cause as well as a business, and within the cannabis world, the most outspoken voices are both activists and entrepreneurs. Perhaps no one embodies both roles more fully than Steve DeAngelo, who’s often credited as the father of the modern marijuana industry. DeAngelo is the co-founder and head of Harborside Health Center, considered by some to be the nation’s largest dispensary, and he’s an articulate spokesman for how cannabis can be “a new kind of industry,” one that



Steve DeAngelo,
head of Harborside
Health Center

embraces diversity, environmentalism, and living wages. Inevitably, as one of the representatives of big business in the city, he also attracts criticism from smaller players.

The industry's upper ranks are more clean-cut than you might think, but DeAngelo, who's jowly and almost 60, with a rumbling chuckle, has a plug in his left ear and wears his hair in two long gray braids beneath a fedora. Every day, he ingests hundreds of milligrams of THC, enough to debilitate many seasoned cannabis users, but DeAngelo manages to be an astute, and sometimes sharp-elbowed, operator. We spoke in a packed café during a cannabis conference as his assistant fetched him coffee.

Most jurisdictions consider cannabis businesses something between a nuisance and a threat, but the city government in perennially broke

Oakland was quick to recognize the economic opportunity in legal pot. It was an early jurisdiction to decriminalize adult use of marijuana, in 2004, and it became the first in the country to license medical marijuana dispensaries, also in 2004. Harborside, which celebrated its tenth anniversary in October, was one of the first dispensaries to open in the city, and it helped pioneer the widely imitated idea that dispensaries should be clean, welcoming spaces, more like Apple stores than smelly, cramped head shops. It now brings in a reported \$30 million in annual sales and is an important Oakland taxpayer. After the Justice Department initiated a case against the dispensary in 2012, Oakland took the unprecedented step of suing the federal government on behalf of a cannabis business. (The Justice Department dropped its case earlier this year.) "Oakland, almost from the beginning, had a really positive attitude about medical cannabis," DeAngelo said. When the feds raided Oaksterdam University, the first marijuana trade school, opened in 2007, "you had elected officials from city government who were there on the streets helping to protest that raid."

But Oakland has also been a violent theater in the drug war. In *The New Jim Crow*, the scholar Michelle Alexander writes of a 1989 Oakland police unit that one officer said operated like a "wolfpack," bringing in "anything and everything we saw on the street corner." In the early 2000s, black drivers in Oakland were twice as likely to be pulled over and three times as likely to be searched as whites. Oakland's police department has been under federal oversight since 2003, following a legal settlement in which 119 plaintiffs were awarded \$11 million after suing the city for police misconduct. Oakland's population is about a quarter African American, but in 2011, African Americans accounted for three-quarters of the marijuana arrests in the city.

DeAngelo told me that a "commitment to social justice is something



that's become a deeply ingrained part of our government." He believes this must extend to how the city regulates marijuana. Virtually everyone I spoke to in Oakland's cannabis industry agreed on the need to proactively support minority business owners. The difficult question is: how? Direct affirmative action isn't permissible under California law, so when Council member Brooks proposed the equity amendment, she chose six of the city's 57 police beats based on the number of marijuana arrests in one year, 2013. All six beats are in Brooks's district and that of a close ally on the council. Residents of troubled neighborhoods not in Brooks's district, like West Oakland and Fruitvale, receive no benefit. (The amendment set off a flurry of outreach as those who failed to qualify looked for partners who did.)

It also alarmed existing gray-market companies, including sizable growers and manufacturers who have been operating in the city for years, employing people and in some cases paying taxes, since it would complicate their path to licenses. Supernova's Unsworth argued that the amendment had to change if Oakland was "to be the model city of business ownership by people of color." Others went further, saying that the amendment seemed hostile to their individual businesses and to the collective goal of making Oakland the center of the industry. Like almost every entrepreneur I spoke to, DeAngelo pointed out serious concerns, saying that businesses controlled "by people who are either residents of an extremely

challenged neighborhood or formerly incarcerated people" will find it "difficult to impossible" to get investors. (As an already licensed dispensary, Harborside is not directly affected by the equity amendment.)

By phone, Brooks told me that she is fighting for the Oaklanders she represents, even if some of her ideas are contrary to mainstream economic thinking. "If it ruffles some people's feathers, I'm OK," she said. She believes the equity businesses will generate jobs and taxes to replace whatever companies leave. "The notion that there are no people of color who have money and are interested in investing in this is foolish," she said.

As Oakland struggles to develop its policy, the industry is racing ahead in Colorado, where recreational

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dispensaries have been open for almost three years. In this short time, Colorado's biggest companies have started to look like chain pharmacies. In May, *The Denver Post* reported that five white men control 134 business licenses in Denver, about 13 percent of the total, and as companies expand to new states, further consolidation is likely. The differences between the Denver and Oakland models are clear from how their businesses do community outreach. The dispensary closest to my home in Denver sponsors highway cleanups and a charity golf tournament. Oakland's Magnolia, where Supernova's Amber Senter works, is a community center offering blood pressure tests, cannabis cooking classes, and support groups for veterans. It sends care packages to more than a dozen marijuana offenders serving life sentences.

Though Oakland hopes to set the tone for the national cannabis industry, more immediately, the city's government and residents need the money the industry could generate. The working-class port city with a large black population has been deluged by yuppie refugees and techies priced out of San Francisco. The gentrification and climbing rent have provoked resentment: Oakland has one of the highest costs of living in the U.S. alongside neighborhoods where unemployment is two to three times the national rate. A cannabis industry in Oakland, many think, could be a counterweight to the forces remaking the city.

BEN LARSON MET his co-founder Carter Laren in 2014 while they were both at Founder Institute, an entrepreneurship training program in Palo Alto that seeks to "globalize Silicon Valley." Legalization caught both partners' attention, but when they began their research, the companies they encountered were, Larson said, "far from the quality that you might see in the typical Silicon Valley pitch session." They lacked professional polish and what he called an "understanding

of what makes a viable business." Gateway, the cannabis incubator the pair started in response, takes a 6 percent stake in early stage startups and, in exchange, gives them a months-long boot camp and a chance to pitch investors. Basing Gateway in Oakland was an easy call. "We see it as the capital of the cannabis industry," Larson said.

Gateway received more than 100 applications for its first class, which began with seven companies this past spring. Gateway is housed in a bayside industrial building called Leviathan, whose façade evokes a ship and a sea monster in battle. Some of the walls are covered in copper-colored scales, like snakeskin.

When I visited in June, presentations to investors were still months away, but the founders were already honing their language and slide decks. Over a pizza lunch, they practiced their pitches for one another, a few guests, and a video camera. Laren paced the barren room like a stern grade school teacher, encouraging "candid, Simon Cowell-style feedback."

Most of the Gateway companies had developed software aimed at professionalizing the outlaw industry. One startup, called Charge, wanted to



Gateway founders
Carter Laren (above)
and Ben Larson





McKinley Owens,
CEO of Flora

simplify payment processing; since many banks won't give cannabis companies accounts, they still often operate in cash. Another, Trellis, had developed compliance and inventory software for growers. Of the five founders who presented, two, Khari Stallworth and McKinley Owens, were black — roughly as many black entrepreneurs as I'd met in the previous year and a half covering cannabis from Denver.

Twenty-four-year-old Owens, dressed in a jean jacket, untucked shirt, and pointed leather boots, went first. He's the CEO of Flora, a company he started with two friends from the University of Michigan. Flora plans to digitize and study the cannabis genetics data that underground growers have accumulated over the years. For now, growers use "20 years of intuition and maybe pen and paper if they're super advanced," Owens told the room. He quoted one grower: "If those notes got wet or caught fire, we'd be f---ed."

Flora had attracted interest on Reddit, but like any tech startup, it faced thorny questions. One was how to convince growers — a generally self-protective group — to share their data, especially with, as Owens put it, "carpetbagging hipsters."

When Stallworth's turn came, he stood up and said, "My wife and I don't know s--- about cannabis. We know food." He wore a sport coat over a Sriracha T-shirt, and a few days of stubble. After high school, Stallworth lived near Chicago with a roommate who was studying

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to be a chef. When they got high, they feasted on his roommate's homework assignments — foie gras and crème brûlée — instead of chips and pizza.

Years later, after studying cooking and cinematography, he was living in Los Angeles working as a unit technician on Hollywood blockbusters when he met Sascha Simonsen, an expert baker from Denmark who catered movie shoots. On the set of *Inception*, Stallworth boasted, "Leonardo DiCaprio himself" requested her cookies. The pair married and now have two young children.

The edibles market is crowded, but the couple thought they could differentiate themselves with treats that masked the plant's unappealing taste. "We knew we were on the edge of a problem we could solve,"

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Khari Stallworth
(above) and Sascha
Simonsen (below)
of Kamala

Stallworth said. Early this decade, their company, Buddha Bakes, placed products in 75 dispensaries and had more orders than they could fill. But as they started having kids, they became worried about the risk of criminal prosecution and eventually scaled down and then shuttered the business. After Gateway invited them to join its first class, however, they decided to try again. They moved to Oakland and renamed their company Kamala.

Unlike Gateway's software companies, Kamala, if it stays in Oakland, will have to get licensed by the city. Over the summer, Stallworth told me, he got into a tense exchange with Council member Brooks at a mixer for those interested in equity licenses. When Stallworth said that entrepreneurs with criminal backgrounds would struggle to raise venture capital and that the city should figure out ways to support them, Brooks accused him of, as he recalls, "trying to cut people out." (Brooks has no memory of this exchange.) "I definitely recognize the injustices," Stallworth said. "I am a black man." But as a new arrival, Oakland is telling him to take his business's jobs and tax dollars elsewhere. The city should "put something together that just makes sense for a business owner," he said.

AS LEGALIZATION has spread, other jurisdictions have recognized the moral urgency of creating diversity in the industry. So far, none has succeeded. This past summer, Maryland issued its first 30 medical marijuana business licenses, but the process was thrown into disarray once it became clear that none had gone to a woman or an African American. It's a "very complex problem," the head of Maryland's cannabis commission told *The Baltimore Sun*. Time sensitive, too, since the established companies are getting bigger and richer. Ohio's

medical marijuana law reserves 15 percent of business licenses for minority owners, but this aspect of the law immediately came under legal scrutiny and the program has yet to become operational.

Oakland's civic leaders place a great deal of emphasis on what Brooks called the city's "secret sauce," the notion that impossible things can happen in this unusually progressive city. But for an equitable policy to compete with proven corporate practices, it has to be able to take root everywhere, not just in one city. It has to scale.

Months after the equity amendment passed, the city hasn't even begun accepting applications, and no one knows how many equity-eligible entrepreneurs will apply; the two I spoke to didn't even support the proposal. Gary Roberson, 34, a music producer eligible both because of where he lives and because he's been in prison for a marijuana offense, said he didn't want to see existing businesses pushed out of the city, commenting that "some really help the community."

A proposal from Supernova this past spring called for Oakland to create an additional class of "cottage licenses" for small-scale and home growers, licenses that would let anyone with a basement or spare room go into the business. Conservatively, a 250-square-foot grow can produce 50 or more pounds of weed in a year, meaning that even a small operation could net roughly \$70,000 annually. "If you want to talk equity, this is the single most leveling activity that could exist in the industry," one Bay Area grower and activist told me. "We built our country on this kind of agriculture."

California's new recreational marijuana law, like those in other states, has been criticized for handing over a once-in-a-generation economic opportunity to the already rich. Cottage licenses could allow mom-and-pop marijuana businesses to generate wealth as well. Writ large, this is a response to one of the country's most intractable economic problems: the lack of a pathway into the middle class for the tens of millions of Americans without college degrees. Crucially, cottage licenses could enable greater diversity of business ownership while avoiding the rancor and legal battles that make laws that address race specifically so difficult to create and maintain.

In late September, commercial home growing received a huge endorsement when California Governor Jerry Brown signed a law creating cottage licenses for 500 square feet of indoor space (and somewhat larger outdoor grows). California cities now have to decide if they'll participate. In Colorado, by contrast, there's no allowance for cottage licenses, and new commercial grows are generally measured in tens of thousands of square feet.

Supernova's Nina Parks said cottage licenses would encourage people who might not thrive

in a traditional work environment, like some veterans and the disabled. "I don't want to work for a big corporation, making money on their time and having to apply for when they're going to tell me I can take my vacation or take my lunch break," she said. "That doesn't sound appealing to me at all." Mirage Medicinal gives her the flexibility of running her own business. Or partially her own: Her brother was released from Rikers late last spring and is back in the Bay Area. "Actually, he's the one answering the phones right now," she told me, laughing. ¶

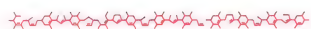
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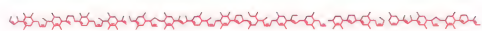




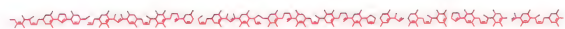
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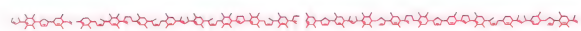
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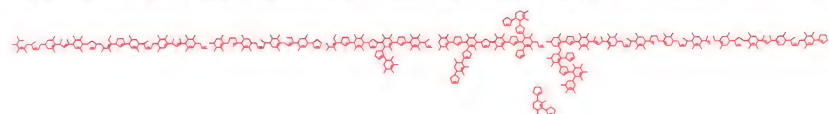
IN ENGLISH



LITERATURE



REVOLUTIONIZED



THE SCIENCE

THE SCIENCE
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AND BECAME
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MOST FAMOUS
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IN THE WORLD

MY DINNERS
WITH HAROLD

BY DANIEL DUANE

PHOTOGRAPHS BY
CARLOS CHAVARRÍA

McGee's method for Thanksgiving turkey: Take the bird out of the fridge a few hours before cooking and immediately drape gallon freezer bags of crushed ice over the breast meat to keep it from drying out and overcooking.

THE FIRST TIME



I HAD DINNER

WITH HAROLD

MCGEE, HE DIDN'T

TOUCH THE FOOD.

up on reading it after repeated runs at Chapter 1: "Milk and Dairy Products."

The mayo mess broke my OFAC impasse. Frantic, I scanned the index, found my subject between matzo and mead, and read McGee's primer on emulsified sauces, of which mayonnaise is one. I felt calmed by McGee's explanation that the essence of an emulsion is the dispersal of oil into a zillion tiny droplets suspended in water, aided by an emulsifier in egg yolks known as lecithin. ¹ I felt reassured by the news that fancy olive oil is notoriously temperamental in mayonnaise, ² and I nearly wept with relief at the sight of a section titled, "Rescuing a Separated Sauce." Following McGee's directions, I put a few tablespoons of water in a cup and then, whisking vigorously, slowly drizzled in my final batch of yolk-speckled oil. Moments later, I emerged as the man I am today, capable of making mayonnaise with confidence.

I promptly bought McGee's second and third books, *The Curious Cook: More Kitchen Science and Lore* (1990) and *Keys to Good Cooking: A Guide to Making the Best of Foods and Recipes* (2010). I soon experienced similar triumphs — like making french fries that did not fall limp within minutes of leaving my deep-fryer. ³ I came to think of McGee as an imaginary friend who lived in my kitchen, knew everything, and was happy to share.

I offer this story because it is the quintessential McGee story: OFAC purchase with intent to self-educate; failure of will; years of ignoring book on shelf; culinary crisis leading to Hail Mary reference; success; love. The story is also quintessentially modern, speaking to the widespread belief that data and the scientific method can make us all happier, slimmer, fitter, and better in bed. Results are decidedly mixed — if not terrible — in most of these areas, but cooking's variables are more knowable and controllable. Cooking involves near-daily experimentation with chemistry (baking soda), physics (heat), and biology (kombucha). Its

McGee is the bookish 65-year-old author of *On Food and Cooking: The Science and Lore of the Kitchen*, first published in 1984, last revised in 2004, and so dense with gripping material like the denaturing effect of heat on meat proteins that it cannot possibly have been read cover to cover by more than two or three people, McGee included. *On Food and Cooking* is also a perennial bestseller with hundreds of thousands of copies in print — a bible for home cooks and chefs all over the world and the primary reason that McGee has become the great secret celebrity of the contemporary food scene.

I knew for years that McGee lived in my San Francisco neighborhood, and I had been fantasizing about dinner with him ever since the night I tried to make mayonnaise by putting an egg yolk and a teaspoon of water in a bowl and whisking in half a cup of extra-virgin olive oil. This mixture deteriorated into such a disgusting pool of grease that I threw it out. I cracked a second egg, separated the yolk, added more water, and tried whisking in another half cup of olive oil. Heartbreak again, this time coupled with self-doubt.

I repeated this process five times, ever more certain that something was wrong with me, until I had gone through ten dollars' worth of oil and all but one of my eggs with only minutes before my dinner guests were due. I owned *On Food and Cooking*, having bought it long before in the hope of making myself into a superior cook, but I had given

1

"Emulsifiers are molecules that lower the surface tension of one liquid dispersed in another, and therefore make it easier to make small droplets and a fine, creamy emulsion."

— ON FOOD AND COOKING

2

"Ironically, the likely troublemakers are molecules with emulsifying abilities: oil molecules that have been broken into fragments that have a fat-like tail and water-soluble head, just like lecithin."

— ON FOOD AND COOKING

methods are mostly traditional, too, resulting from a thousand years of unscientific trial and error and therefore rife with easy targets of the kind identified and shot down by McGee in a 1985 article for *The New York Times* about the time-worn notion that searing meat seals in juices, which turns out to be nonsense. ❸

The language of science, meanwhile, has replaced French classicism as the lingua franca of the culinary world. Major culinary schools offer a food-science major with OFAC on their reading lists, TV shows like Alton Brown's *Good Eats* have enshrined the scientific method as the secret to kitchen success, and bestselling books like J. Kenji López-Alt's *The Food Lab: Better Home Cooking Through Science* describe elaborate experiments proving that burger patties smashed flat on a griddle do not, in fact, turn into hockey pucks. We are living, in other words, through a period of what you might call Peak McGee.

❸

"Don't use potatoes that have been refrigerated; they will brown too quickly and deeply.... Cook the potato strips in simmering salted water until limp, allow them to cool and dry until they're tacky to the touch, then fry twice at 240 F until they just begin to color, then at 365 to 375 F until brown."

— KEYS TO GOOD COOKING

BACK TO THAT first dinner. McGee is working on a new book that he describes somewhat cryptically as "a guide to the smells of the world," and he fiercely guards his writing time. So I didn't actually ask him to dinner. I asked if he might consider meeting me for conversation, maybe at a restaurant. The chefs of every fine-dining eatery in San Francisco would have recognized and welcomed him, but he insisted on a modest French bistro called Le Zinc near his home in the Noe Valley neighborhood. McGee apparently likes to take a walk after his writing day.

I arrived at 5:30 p.m. on a Tuesday and found Le Zinc empty except for the maitre d' and McGee: long-limbed and slender almost to the point of delicacy, with a neatly trimmed beard, gold wire-rimmed spectacles, and a social awkwardness obvious from ten paces. McGee sat at a little round table in back and was drinking white wine. I joined him and, hoping to lure him toward a meal, ordered steak tartare to share.

While we waited for the food, I asked how McGee came to write OFAC. Sitting up straight in his chair and speaking in a genteel and controlled manner, McGee began: "I grew up mainly in the Chicago area. My mother was a housewife, and my father worked at the Sears mother ship downtown." A chemical and electrical engineer, his father met McGee's mother during a postwar stint in India. The family lived in what were then newly built suburbs, where McGee spent nights in the backyard with a ham radio, communicating with people on the far side of the Earth.

Our waiter set down a white plate with a red cylinder of raw chopped beef surrounded by green salad and toast. McGee ignored it and said that he went to the California Institute of Technology to study astronomy but, after one year, "realized that I had friends who could look at a question on our homework, look at the sky for a minute, write an answer, and then go to the beach. And I would sit there and sweat even when things were explained to me." McGee also discovered a love of literature "to the point where I was like, 'Maybe I'm in the wrong place and should transfer to a liberal arts school.'"

An English professor convinced McGee to stick around and study the Big Bang and Romantic poetry side by side. McGee described this as a remarkably happy period followed by equally enjoyable years in the Ph.D. program in English literature at Yale, studying under Harold Bloom. McGee's college girlfriend, Sharon Long, joined him at Yale, first as an instructor in the biology department, where she gave a lecture on the thermodynamics of fudge making. Later she became a doctoral student in biochemistry and genetics.

McGee said that he finished his dissertation on John Keats in 1977 and began an unsuccessful three-year search for a tenure-track position. McGee was getting to the part of the story where he struck on the idea for OFAC, and I could feel his tone change to emphasize doubt and happenstance

A FRIEND
CONFESSED THAT

HE LOVED
BEANS
BUT SUFFERED
TERRIBLY

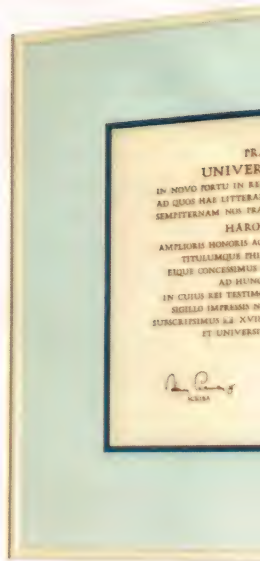
WHEN HE ATE
TOO MANY. "HE WANTED
TO KNOW IF
THERE WAS SUCH
A THING AS A

'FART
CHART.'"

❹

"The eminent German chemist Justus von Liebig came up with this idea around 1850.... But simple experiments in the 1930s showed that Liebig was wrong. The crust that forms around the surface of the meat is not waterproof, as any cook has experienced: the continuing sizzle of meat in the pan or oven or on the grill is the sound of moisture continually escaping and vaporizing."

— ON FOOD AND COOKING



THE
LANGUAGE OF
**SCIENCE
HAS REPLACED
FRENCH
CLASSICISM**

AS THE LINGUA
FRANCA OF
THE CULINARY
WORLD.

more than genius or vision. “We had friends in biology and literature, and we would get together on weekends for a potluck,” McGee said. “Often, what we had in common to talk about was food. You spill wine and someone says, ‘Put salt on it,’ and someone else says, ‘Why?’ Then the chemists start to speculate.”

McGee said that he finally gave up on his dream of becoming a professor — a painful passage — and looked around for a writing project, perhaps a book on some aspect of science. At one of those potlucks, a friend confessed that he loved beans but suffered terribly when he ate too many.

“He wanted to know if there was such a thing as a ‘Fart Chart’ of different kinds of beans,” McGee said. “And if he used a different kind of beans, could he maybe eat a couple more servings? He also wondered if there was something he could do to the beans ahead of time.”

The next day, McGee went looking for answers. At the Yale biology library, he discovered that plenty of food-science research had been published by and for the food

manufacturing and packaging industries, but little of it had been shared with chefs or home cooks.

“I spent hours in that library because I had never seen anything like it,” McGee told me. “Poultry science and agricultural and food chemistry. I would just flip through random volumes and see microscopic studies of things I eat every day. It seemed so cool and unexpected. It took more than a day to home in on the right sources about beans, but not only did I find out what’s in them and what you can do about it, but there *is* a fart chart and there *are* things you can do to lessen your suffering.”⁵ Most of the research in the field of flatulence was funded by NASA. If you think about it, it makes good sense — these were still the days of capsules.”

McGee quit his last Yale teaching job to write a book proposal. “Fear, shame... I had a terrible time around then with panic attacks,” he said. “They just set in. A colleague of mine who got a professorship at Wellesley, his wife was a clinical psychologist. So I was able to confide in them. You know, ‘You’re not about to die...’” McGee laughed. Richard Drake, a Yale friend who also failed to land a tenure-track job, described this period as “a very rough time for Hal. What is he going to do for a career?”

At about the same time, Long was out at dinner when she mentioned McGee’s book idea to a man who happened to know a scout for Scribner’s publishing house. Not long after, “I get a letter out of nowhere saying Mr. Scribner is coming through New England, and could I find time to have lunch with him?” The two met and, after they ate, Scribner said, “I want to publish your book. What do you need?” McGee asked for and received a \$12,000 advance.

McGee had recently moved to Boston to live with Long, who had a postdoctoral fellowship at Harvard. He soon discovered Radcliffe’s Schlesinger Library on the History of Women in America and its immense collection of food books. “I could walk into a room lined with books arranged chronologically, so when I was writing about meat, I could start with the Greeks and work my way forward.” The longer McGee worked, the more certain he became that he was onto something special. “The excitement of pulling things together that I knew belonged together that no one had put together before,” he said. “I was always looking over my shoulder, convinced that someone was going to scoop me by a year.”

THE SECOND TIME I had dinner with Harold McGee, once again at 5:30 p.m. at an empty Le Zinc, I asked him if he would consider sharing some food.

McGee nodded, so I ordered steak tartare again, foie gras with brioche, and niçoise salad. This time, when the tartare arrived, McGee began to eat.

I said, “Is steak tartare really safe?”

“It isn’t always,” McGee replied. “You have to trust. You had it last time, and I did not.” →

⁵

“Many legumes, especially soy, navy, and lima beans, cause a sudden increase in bacterial activity and gas production a few hours after they’re consumed. This is because they contain large amounts of carbohydrates that human digestive enzymes can’t convert into absorbable sugars.... An alternative is simple prolonged cooking, which helps by eventually breaking down much of the oligosaccharides and cell-wall cements into digestible single sugars.”

— ON FOOD AND COOKING

"You were waiting to see if I died."

McGee smiled and told me that his father loved rare hamburgers. Near the end of his life, this predilection worried McGee enough that he developed a method of preparing safe rare hamburgers at home based on the insight that harmful bacteria live only on the surface of muscle tissue: He bought beef chuck in large intact pieces, immersed them briefly in boiling water, then ground them shortly before cooking. 6

Our foie gras arrived, and, while we ate, I asked to hear the life story of *OFAC* — how it transformed McGee from failed academic to his current role in the culinary world. It took a while to air out all the false starts, setbacks, and lucky breaks. McGee began by saying that, before he even finished *OFAC*, Long was offered a professorship at Stanford.

On their drive west in 1980, the couple stopped in New York so that McGee could hand-deliver his manuscript at the Scribner building on Fifth Avenue. The book languished for four years. A young editor took over the project and cut out everything that Charles Scribner Jr. asked McGee to include — history, anecdote. McGee threatened to return his advance and take the project elsewhere and was then invited back to New York, where he spent days in a windowless room restoring the book.

When *OFAC* came out, reviewers ignored it, and the book sold poorly. "You have to remember there was no Starbucks, no balsamic vinegar. Nobody cooked with olive oil except horrible cheap stuff," McGee said. "It was a completely different world." American professional chefs, furthermore, saw food science as the province of industrial food manufacturing. McGee got a break in 1985, when the food writer Mimi Sheraton reviewed *OFAC* for *Time* and called it "by all odds a minor masterpiece." Sales picked up, McGee signed with an agent, and he received a modest advance to write *The Curious Cook* around a series of home-kitchen experiments — but it was still not an easy period.

McGee was the primary parent of his and Long's two children, filling his free time by cooking for his family — he had a big pizza phase — and writing articles like "Matching Pots and Pans to Your Cooking Needs" for *Science Year* 1987, a supplement to the *World Book Encyclopedia*. "Colleagues of my wife's would try to make connections for me at Stanford, so that I could be an instructor or something," he told me, "and they all went uniformly nowhere. People had a 'Who do you think you are?' attitude, like I was just a hanger-on looking for a handout, which did nothing for my confidence in what I was doing with my life."

In 1992, the year Long won a MacArthur "genius" grant for molecular biology, McGee helped organize a small cooking-science conference in the Sicilian village of Erice. The venue liked events to have serious-sounding names, and *The Science of Cooking* didn't cut it. "Molecular biology was chic at the time," McGee told me, "so we settled on *The First International Workshop on Molecular and Physical Gastronomy*."

Throughout the late 1990s, as McGee prepared a second edition of *OFAC*, public interest in the topic began to grow. Robert Wolke launched a cooking-science column for *The Washington Post* at the same time that Alton Brown's *Good Eats* debuted on the Food Network. But the biggest change in McGee's fortunes came from his friendship with a young English chef named Heston Blumenthal.

Years earlier, before Blumenthal had a restaurant of his own, he systematically worked his way through the French classical tradition at home — "while all my friends were going out and having pints, a kebab, and a fight," as he put it. Reading McGee, Blumenthal said, transformed the way he looked at food. The revelation about searing meat not sealing in juices "was a life-changing moment, because it questioned one of the most biblical laws in cooking." Blumenthal eventually opened *The Fat Duck* outside London, which became by far the most famous restaurant in the U.K.

6

"To prepare safe raw meat dishes... start with a large, intact piece of meat whose interior is likely to be microbe-free. Immerse the meat completely in rapidly boiling water for 30 to 60 seconds.... Remove the meat with clean utensils. Plunge the meat in an ice-water bath for 1 minute to stop the cooking, then remove it and blot it dry. Immediately prepare the meat with clean hands, knives, cutting boards, and grinders. Keep the meat very cold until you're ready to cook or serve it."

— KEYS TO GOOD COOKING

WHEN ON FOOD
AND COOKING CAME
OUT IN 1984,
REVIEWERS IGNORED IT,
AND THE BOOK SOLD
POORLY.

**"YOU HAVE TO
REMEMBER
THERE WAS NO
STARBUCKS,
NO BALSAMIC
VINEGAR."**

MC GEE'S OWN
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FANCY
EQUIPMENT.**

McGee, taking his last sip of wine, recalled receiving a note from Blumenthal asking if he would serve as a consultant. "I think he replied to me over email," Blumenthal said, "but I never read it as I was computer illiterate at the time." Blumenthal began to produce dishes like sardine-on-toast sorbet and edible spheres of vodka and green tea dropped into liquid nitrogen. He soon gained recognition as a leading practitioner of a wildly experimental — and science-driven — new cuisine that was also taking root in Spain, erroneously called molecular gastronomy out of the mistaken notion that it emerged from those Erice workshops.

Blumenthal and McGee finally met in the Milan airport en route to Erice, where they were both scheduled to attend the 2001 Workshop on Molecular Gastronomy. "I was completely thrown off by the chance encounter," Blumenthal said. "My mind was running through the endless experimentation with food that his book had inspired, so I blurted out the first thing that came to mind: 'It's all your fault!' I think he was a little taken back."

The two began having long phone conversations, like the one on Christmas Day 2004 when McGee, who had just published the second edition of *OFAAC*, said something like, "I need to catch up on the world." Blumenthal invited him to Europe for an eating tour. The next August, after The Fat Duck claimed the top spot on *Restaurant* magazine's list of the World's 50 Best Restaurants, the two dined at El Bullí in Spain, where they met Ferran Adrià, who famously closed his dining room for six months a year to work with scientists on the development of new dishes.

The following summer, Blumenthal and McGee returned to Spain to stay on the yacht of Microsoft billionaire and cooking obsessive Nathan Myhrvold. They got to talking about the widespread misunderstanding of what they preferred to call "modernist cuisine." So few people could afford to eat in restaurants like The Fat Duck and El Bullí, and their more dramatic dishes were so easily sensationalized, that the entire movement was at risk of looking like a novelty act aided by laboratory equipment.

"We wanted to write a statement on the new cooking to give some clarity," said Blumenthal. Together with Myhrvold, he and McGee dined yet again at El Bullí, discussed the issue for hours with Adrià, and then returned to Myhrvold's yacht. "We'd spend a couple hours at a time, talking it over and writing drafts," McGee recalled. "Then we'd go have fun and come back and have arguments about how it should be released."

The result, published by *The Guardian* in December 2006, was titled "Statement on the 'New Cookery.'" Co-authored by Blumenthal, Adrià, Thomas Keller of The French Laundry, and McGee, it rejected the term "molecular gastronomy" and, among other things, declared that "the disciplines of food chemistry and food technology are valuable sources of information and ideas for all cooks. Even the most straightforward traditional preparation can be strengthened by an understanding of its ingredients and methods." In effect, the three most famous chefs in the Western world officially joined the author of the definitive work on the subject to send every serious cook scrambling to learn a little kitchen science.

"That statement was important for a while," said McGee. In Blumenthal's view, it still is. Modernist cuisine was arguably the most significant transformation in global culinary culture in a century or more, and, he said, "My conversations with Harold were the seeds that led to the modernist movement."

THE THIRD TIME I had dinner with McGee, I wanted to know what it would be like to dine with so much wonderful information about food in your head. I knew that experimental cuisine was not where McGee's heart lay — his intellectual and gustatory compass points more toward the humanistic true north of simple pleasures. His own cooking has always been modest, and his home kitchen is

"About quince: it is indeed rich in tannins and related compounds that are precipitated by gelatin (hence the softening of wines when gelatin and egg whites are used to fine them). It's the protein-tannin particles that cloud the stock. So one thing you can do is add some gelatin (or other protein) and strain at an early stage of the stock making to remove the tannins at that point. Or you can try some other gum thickeners instead. Some may also cloud, some may remain clear depending on their interactions with the tannins."

— EMAIL FROM
MCGEE TO
DANIEL HUMM

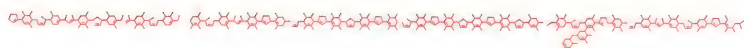


IN AN INDUSTRY DOMINATED
BY BIG PERSONALITIES,

**CHEFS CAN'T HELP
BUT LOVE MCGEE'S
COMBINED DEDICATION
TO SERVICE**

AND

**LACK OF
INTEREST IN THE
SPOTLIGHT.**



not cluttered with fancy equipment. So I chose another classic French bistro, called Monsieur Benjamin, run by Corey Lee. I picked McGee up one evening at the Victorian home he shares with Elli Sekine, a food and travel writer (he and Long separated in 2003).

Chef Lee, I knew, had found OFAC early in his career and was one of the many chefs who emailed McGee for advice — in Lee's case, on a plan to air-cure foie gras. In 2007, *The New York Times* asked McGee to write a column titled "The Curious Cook," and he began receiving an endless stream of queries. Daniel Humm of New York's Eleven Madison Park sought insight on why the combination of quince and gelatin caused stock to become cloudy.⁷ Thomas Keller invited McGee to give a talk to the staff at The French Laundry and asked his help in identifying the best way to preserve the bright-green color of vegetables during cooking.⁸ He still spends time answering questions from culinary students, too, and cooking-school instructors, and home cooks ("Good Afternoon Harold, I am trying to lighten up my grandma's carrot cake recipe ...").

McGee is now a regular at culinary and food-science conferences, and he recently did a series of short videos for Anthony Bourdain's *Mind of a Chef*, floating over an animated background as the official nerdy professor of contemporary food television. Each fall, he travels east for Harvard's Science and Cooking course to give the keynote lecture. The class came about because of a collaboration among mathematician Michael Brenner, physicist David Weitz, and Ferran Adrià. As they developed the syllabus, Brenner said, "There was no question that *On Food and Cooking* was the best thing ever written on the subject. Harold is the leading food intellectual of our time." When the course debuted in 2010, more than 700 Harvard undergraduates signed up for 300 spots. It has now become the

new “physics for poets,” the standard gut-science course for nonmajors. The online edX version has drawn nearly 200,000 subscribers.

McGee is no longer the only player in the field. Myhrvold’s six-volume opus, *Modernist Cuisine*, self-published in 2011 at a cost of more than a million dollars and currently retailing for \$625, is an obsessively exhaustive encyclopedia of the science behind experimental cooking. Newer titles include *The Science of Good Cooking* by the editors of *America’s Test Kitchen* and *Cooking for Geeks: Real Science, Great Cooks, and Good Food*. But all these writers acknowledge McGee. “He taught us that most of the stories we had been told about food were just that, clever stories,” said Myhrvold.

The maitre d’ at Monsieur Benjamin recognized McGee and led us through the well-heeled crowd to an excellent table in back, where I ordered oysters and sea urchin, aged serrano ham, melted Époisses cheese with toast, cold beef tongue, chicken consommé, blanquette de veau, and quail à la chasseur.

McGee seemed delighted to be there, and he gamely offered that urchin tastes the way it does because of the bromine and iodine in seawater. He tasted the ham and told me that pork legs can be thought of as machines for moving pigs, complete with small enzymatic machinery for dismantling worn-out old cells and building new ones. Beef tongue provoked a disquisition on the fact that its muscles have to move in complicated ways and are not supported by bone — like, for example, biceps. “The tongue is a really unusual free agent that has to do whatever it does independent of the rest of the body,” McGee said.

Then our waiter set down a beautiful plate of charcuterie that I had not ordered. I suspected that it was a gift to McGee from Chef Lee, who had once told me that he owned OFAC for years without using it. Lee finally met McGee at The French Laundry, where Lee trained under Keller. “I remember



8

“Dulling of the greens can be minimized by keeping cooking times short, between five and seven minutes, and protecting chlorophyll from acid conditions.... Once the vegetables are cooked, either serve them immediately or plunge them briefly in ice water so that they don’t continue to cook and get dull.” — ON FOOD AND COOKING

expecting to talk to a scientist,” Lee said, “and realizing I’m actually talking to someone who has great appreciation for cuisine and deliciousness.”

Watching McGee now, I saw what Lee meant: Behind the erudition, those gentle eyes closed with every bite, savoring flavor and texture. I noticed something else, too — not just modesty but lack of ego. McGee was not like a great novelist or musician who set out to make his mark on the world. He was curious and listened to his authentic interests and never stopped trying to be useful. In an industry dominated by big personalities competing for attention, chefs can’t help but love McGee’s combined dedication to service and lack of interest in the spotlight.

“Very clean and fresh,” he said suddenly, after swallowing an oyster. “Fresh like a cold ocean, not a lukewarm one.” Perhaps thinking of his new book, McGee said, “When I taste that, I think of two different things, cucumbers and blue borage flowers. It turns out that among the aroma molecules we’re tasting, several occur in both plants, and that’s why you can use borage as a garnish to give the hint of the ocean when there’s no seafood in a dish.” McGee then picked up another half-shell, slipped the oyster into his mouth, and closed his eyes. §

DANIEL DUANE won a National Magazine Award in 2012 for a story about cooking with Thomas Keller. His work appears regularly in *The New York Times*, *Food & Wine*, and *Men’s Journal*.

CARLOS CHAVARRÍA is a photographer from Madrid living and working in San Francisco.

A black and white photograph showing a crime scene investigation setup. In the foreground, a computer mouse sits on a magazine titled 'Forensic DNA'. To the left is a telephone keypad. In the background, a 'County of Los Angeles Department of Medical Examiner' form is visible, featuring a body diagram with handwritten notes and a 'Review' stamp.

**The L.A. public
defender's office
decided it needed
a scientist.**



The Investigator

By Erika Hayasaki

Photographs by Dru Donovan



Erin Morris keeps a document on her computer with a rundown of subjects she has advised on in recent years. Sexsomnia (sexual behavior during sleep), machete-chop wounds, canine-scent detection, rape-trauma syndrome (how rape can affect a victim's personality and behavior), pathological gambling, pediatric-onset bipolar disorder, crime-lab comparisons of duct tape and zip ties, the effects of pesticide use in the 1970s in South Korea, and the impact of gruesome photographs on jurors' decision-making. That's just a partial list.

Morris is a behavioral-sciences research analyst for the Los Angeles County Public Defender's Office, the first person to ever hold the job. In recent years, forensic and behavioral sciences have evolved so quickly that it's impossible for most of the office's approximately 700 lawyers to keep up. This is where Morris comes in. She is responsible for understanding the academic literature, determining which studies and theories are valid, and consulting with attorneys on how to pursue or challenge a line of inquiry. She raises questions a lawyer might not even know to ask.

Morris is 39 and has freckled skin, blue-gray eyes, and a tendency to talk fast. A "closeted goth" in her youth, she maintains a large collection of skull art both in her home and in her office. A skeleton in a red bow tie and top hat with a word bubble that says **CHEERS!** hangs from a magnetic board in her cubicle, and a silver skull usually dangles from around her neck. She spends most of her days burrowing into case files filled with horror. "If you are a person with any drop of empathy, you break for a moment," she says. "Your heart hurts for what someone went through." But she also finds the cases intellectually interesting. "It's a puzzle, knowing that no single piece is going to be the whole story. It's not just necessarily what the client says happened or what the witness says happened. There can be multiple explanations."

That is what happened in the winter of 2013, when she received a file that pointed her to a problem she had never encountered. The case involved financial fraud and murder and had taken four years to reach a preliminary hearing. The victim, a 35-year-old art teacher at Markham Middle School in Watts named Alexander Merman, had been stabbed seven times in the back of his head and neck. In the crime-scene photos, he lay sprawled in a pool of blood on the floor

of his Santa Monica condo. A blood-soaked towel partially covered his face, and blood had splattered bookshelves and an armchair.

Merman's financial adviser, Daniel Becerril, was accused of the murder, but none of his fingerprints or DNA had been found at the crime scene, and detectives never uncovered a murder weapon or any witnesses. Becerril had no record of violence.

Becerril met Merman in 2004, after giving an investment presentation to a group of educators. Merman had received a large inheritance from his uncle and was looking for advice. Over the next few years, Becerril managed Merman's money, and the two grew to be friends. After Merman was found murdered, police discovered that Becerril had been siphoning money from Merman's bank account.

Phone records showed that Merman had used his cell on the morning of Tuesday, March 18, 2008, but that after 12:40 p.m. all activity stopped. The next evening, a neighbor checked in on him and found his body and called 911. The chief of forensic medicine at the coroner's office estimated the time of death to be between 12:46 p.m. on Tuesday and 2:46 a.m. on Wednesday — a 14-hour window.

Becerril's cellphone placed him in the vicinity of Merman's condo just outside that window — at 12:40 p.m. Tuesday. By 1:04 p.m., around the time Merman stopped answering or receiving calls, Becerril's cell pinged at a tower 1.5 miles away from the condo, and at 1:06 p.m., it pinged at Olympic Boulevard, 2.7 miles away. After that, his phone continued to ping into Orange County, approximately 50 miles away.

The murder case against Becerril, Morris understood, hinged on the time of death. To determine when someone has died, medical investigators depend on a set of indicators that can include body rigidity, body temperature, decomposition, stomach contents. But in recent

Morris was soon thrown into legal questions about fetal alcohol spectrum disorder, child abuse, and animal torture. At one conference, she thought, *I'm going to lose it.*

years some coroners have refused to give a time of death, believing it is impossible to establish accurately. She set out to investigate.

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FOR MORE THAN 100 YEARS, courtrooms across the United States have turned to forensic evidence to mete out justice. A lone fingerprint found at a crime scene could be sufficient to convict. A bite mark that matched a suspect's teeth could result in a death sentence. A lead analysis could link a bullet to a crime scene and sway a jury toward a guilty verdict.

But what once was considered incontrovertible is now under scrutiny. Since 1989, more than 340 defendants have been exonerated through DNA analysis; according to the Innocence Project, reviews of these cases revealed that faulty forensic evidence had convicted many of the defendants. "We wouldn't want Ouija boards in court just because people have used them a lot and they thought they were helpful," says Jennifer L. Mnookin, a dean of the UCLA School of Law and co-director of the Program on Understanding Law, Science, and Evidence. In September, the President's Council of Advisors on Science and Technology released a report that questioned many of the methods used by law enforcement and prosecutors. Expert witnesses, the report explained, frequently overstate the accuracy of evidence, sometimes testifying that their findings are 100 percent certain, even when such claims "are not scientifically defensible."

Many scientists now agree: Examiners' unconscious biases can and do lead to false-positive fingerprint identifications. Bite marks cannot reliably implicate or exclude a person in a crime. And there is no basis for drawing a connection between the lead content of a bullet discovered at a crime scene and a particular box of ammunition.

The use of scientific evidence in the criminal-justice system is experiencing its most radical shift in 25 years, which makes Erin Morris's role crucial. She is the only all-purpose scientific researcher in a public defender's office in the country.

The youngest of three, Morris grew up in a suburb of Binghamton, New York. She was majoring in theater design at the University of Maryland, College Park, when she came across the work of cognitive neuroscientist Michael Gazzaniga, who was famous for his studies of split-brain patients, which helped explain false memory. She began reading the work of neurologist Oliver Sacks and eventually changed her major to psychology. She decided to pursue a Ph.D. at the University of California, Irvine, where she studied the intersection of psychology and law under Elizabeth Loftus, whose pioneering research contributed to the re-evaluation of eyewitness testimony. Another of Morris's professors was William Thompson, who worked on wrongful conviction cases and often consulted for the L.A. public defender's office.

"Their deputies were just being overwhelmed by science and social-science evidence," Thompson recalls. "They kept saying, 'We wish we could have you or some of your students work with us all of the time.'" Thompson thought Morris was the ideal candidate if the office wanted to create the position. "She has this fascination with cases, and she really likes to get into the details," he says. "She likes to break things down and figure out what the strengths and weaknesses are."

In her first month on the job, Morris was sitting next to a defendant at a trial when he lunged over and attacked his lawyer. She was soon thrown into legal questions about fetal alcohol spectrum disorder, child abuse, and animal torture. At one conference, she thought, *I'm going to f---ing lose it*. She found herself bursting into tears out of nowhere, "like a puddle on the floor," and decided to see a therapist, who helped her realize she was experiencing trauma by proxy. After a few sessions, Morris says she began to feel better. "I think it was really a matter of talking through it." She realized it was OK to feel these emotions and then put them aside and fixate on the job. "You get hit by these things," she says, "but then you just go back to the clinical thinking — what are the facts of the case, what does this evidence show?"

By her own estimate, Morris has worked on more than 200 cases. There was the murder trial in which the defendant was accused of ritualistically murdering and dismembering his victims. The prosecutor claimed he was mimicking a vampire and brought in an expert witness whom Morris helped debunk. There was the case in which a woman had been charged with battery of a police officer. Morris researched whether nerve damage could cause her to spastically kick the officer after he torqued her arm behind her back. And there was the case that drew on the work she had done at Irvine. Police had arrested a young man for brutally assaulting a group of high school students. The fate of the defendant rested on a single eyewitness — one of the victims had later identified the man in a crowd at a basketball game. Morris was on top of the latest research on eyewitness testimony and advised the public defender of its many flaws — that head injuries, for example, often affect memory and that it's easy to confuse two people who wear similar clothing. The jury handed down an acquittal.

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THE BECERRIL CASE documents (obtained from sources not connected to the legal defender's office) showed that Merman's body was stiff, muscles locked and flexed — in peak rigor mortis — which happens about 12 hours after death. That, Morris realized, would have put his death at around 2:46 p.m. on Wednesday, more than 24 hours after Becerril's cellphone placed him near Merman's condo.





International Association for Identification

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06/02/2014



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INTERNATIONAL ASSOCIATION FOR IDENTIFICATION
30245
Erin K. Morris
Associate - 2017

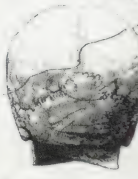
Percentages of various items with various numbers

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45	100%
46	100%
47	100%
48	100%
49	100%
50	100%

DNA by the Numbers: Anna A. Mapes
Forensic Magazine, 30(20/2015)
<http://www.johnsonlaw.com/files/2015/10/dna-numbers>



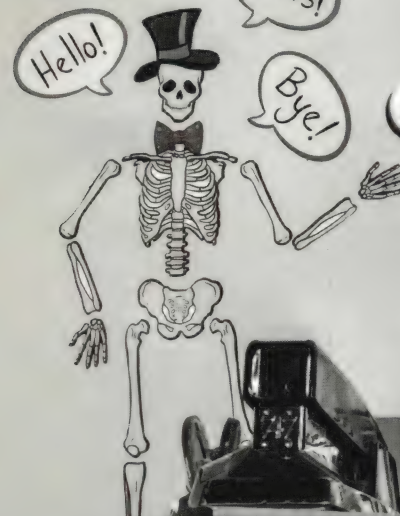
34



got evidence ?

International Association for Identification
30245
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Karen's Plan
Museum - 1000
Child Abuse
Edison Forum
Lemon by 100
New Judges
For Sale
1000



Many scientists now agree: Examiners' unconscious biases can and do lead to false-positive fingerprint identifications.

Time-of-death estimates based on rigor mortis, however, are unreliable. It is possible for a body to remain in rigor mortis for up to 48 hours. A cool climate, nakedness, disease, or obesity, for example, can slow down stiffening. A warmer environment (like a desert or a car trunk) or an elevated temperature (perhaps from fighting off an attacker or from running) can fast-forward the body into its next stage: limpness.

The medical investigator also noticed a pooling of purple-blue blood, or lividity, beneath some of Merman's skin. She pressed on those areas and whiteness appeared, which indicates the person probably died within the previous eight to 12 hours. This estimate, if taken on its own, narrowed Merman's time of death to between 3 p.m. and 7 p.m. on Wednesday — 28 hours after Becerril's cell pinged in the area.

The investigator applied a third measure: how much Merman's body had cooled, known as algor mortis. For most people, the resting body temperature is 98.6 degrees, and each hour after death, the body cools by approximately 1.5 to 2 degrees; after the first 12 hours, the rate slows. Merman's liver temperature was 69.1 degrees, which suggested he died 18 to 24 hours earlier, or between 3 a.m. and 9 a.m. Wednesday.

Each of these methods pointed to a different time for the murder, but none was close to the time when Becerril's cellphone pinged nearby. So where did the estimate that Merman had been killed as early as 12:30 p.m. Tuesday come from? Morris turned to the fourth time-of-death assessment, the nomogram.

The nomogram is rarely used in Los Angeles, which is why Morris had never heard of it. Developed by a German doctor named Claus Henssge in 1981, the method takes into account weight, layers of clothing, airflow, room temperature, and body temperature as determined by a rectal exam. When Morris completed the complex calculation, she could see how the chief of forensic medicine had arrived at the time of death as 31 hours before his exam, plus or minus seven hours.

To Morris, the nomogram seemed to be a more intricate time-of-death measurement than using just rigor, algor, and lividity, because it allowed for so many more variables. But there was one catch: The investigator took Merman's body temperature from the liver, avoiding the rectal region because it could destroy evidence of possible sexual assault.

"OK, well, are liver and rectal temperatures interchangeable?" Morris asked. She could find little information. She also couldn't track down an email address or phone number for Henssge. For all she knew, he was no longer alive. Months into the case, she had an idea. She would look for him on ResearchGate, an academic sharing

site. There he was. Henssge replied to her questions the next day:

"The nomogram method is related exclusively to the 'deep' rectal temperature as standardized probe site.... The resulting estimate of the nomogram method can be affected significantly when using the liver temperature. Overestimation or underestimation of the [time] of death can result."

This was the confirmation she needed. The chief of forensic medicine had flubbed it — and without the nomogram, his estimate of Merman's time of death didn't hold up. After Morris told Becerril's lawyer about her discovery, he filed a motion asking the court to exclude the examiner's opinion, because it was not based on "an accepted medical practice within the scientific community." The chief eventually conceded that Morris was correct. The two sides began to negotiate a plea.

On July 23, 2014, Becerril was sentenced to 15 years in state prison after pleading no contest to money laundering, grand theft, and voluntary manslaughter. His lawyer still believes Becerril could have been acquitted on the murder charge based on Morris's findings. However, he advised his client to accept the deal, because "the amount of time he was facing on the related fraud counts was basically the amount of time we settled for." If he lost on the murder charges, "he never would have got out of prison."

In Morris's view, science won. "There were legitimate issues," she says. "We still don't know what the time of death was. We had four different estimates. If someone is trying to overstate the significance of evidence, I want our people to recognize that, to not just have blind acceptance." This might not change the outcome, she says, but it will help an attorney provide the best advice to a client. "It's about fairness of the process, holding the prosecutor to their burden of proving the case. It's not just about guilt and innocence."

Recently, Morris has been examining autopsy reports in a case concerning three dead children, while also preparing a talk on cognitive bias. In between, she spent a weekend at a legal conference about capital cases and death-penalty defenses. One lawyer after another wanted to ask her about firearm identification and ballistics. Pretty standard questions. Then came an attorney who told Morris that she had taken on a case in which a potato had been used as a gun silencer. Residue had been found at the scene. She wanted Morris involved. ¶

ERIKA HAYASAKI is an associate professor of literary journalism at the University of California, Irvine, and the author of *The Death Class: A True Story About Life*.

DRU DONOVAN is currently a visiting lecturer at Harvard University and a 2016-2017 John Simon Guggenheim Memorial Foundation Fellow.

by WENDY MACNAUGHTON

four IN GENIOUS DESIGNS found in JAPAN

I WAS RECENTLY in Tokyo and Kyoto and FOUND A FEW BRILLIANT DESIGN SOLUTIONS to PROBLEMS I NEVER NOTICED EXISTED.*



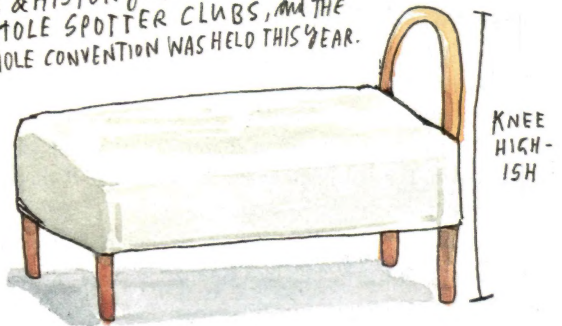
① MAPPING MANHOLE COVERS

WHEN THE JAPANESE GOV'T FOUND THAT SMOOTH MANHOLE COVERS WERE A SLIPPING HAZARD THEY MANDATED THAT THEY BE DESIGNED WITH A RAISED PATTERN. LOCAL MUNICIPALITIES STARTED CREATING UNIQUE, COLORFUL, SITE-SPECIFIC COVERS. NOW, THERE ARE MORE THAN 12,000 DIFFERENT MANHOLE COVERS THROUGHOUT THE COUNTRY, MANY DESIGNED BY LOCAL ARTISTS TO REFLECT LOCAL SITES & HISTORY. THEY'VE SPARKED MAN HOLE SPOTTER CLUBS, AND THE FIRST MANHOLE CONVENTION WAS HELD THIS YEAR.



② THE PURSE CHAIR

SO YOU DON'T HAVE TO PUT YOUR PURSE ON THE GROUND. (OBVIOUSLY.)



③ A BETTER BEER CAN

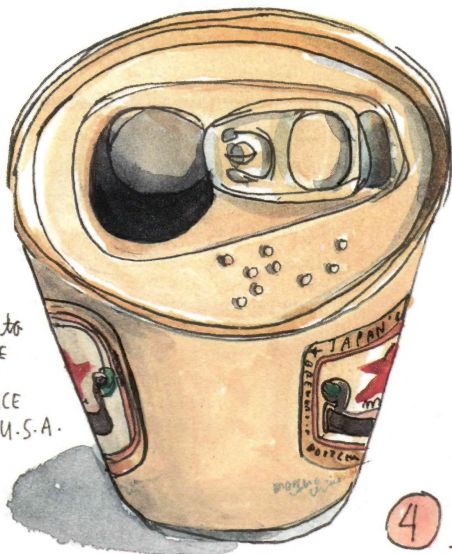
A "ALCOHOL" IS PRINTED in BRAILLE on TOP of BEER CANS to HELP BLIND PEOPLE NOT MISTAKE BOOZE for SODA.

A LITTLE DIVOT IS PRESSED into the TOP of the CAN JUST UNDER THE PULL TAB SO YOU CAN TUCK YOUR FINGER in and PULL INSTEAD of USING NAILS MANY of US DON'T HAVE.



GENIUS!!

④ WATERMELON HANDLE!



* I'M REALLY HOPING SOMEONE DECIDES to INSTITUTE ALL THIS BRILLIANCE in THE U.S.A.

IT'S BRUCE CONNER ALL TRUE

OCT 29–JAN 22

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Museum of
Modern Art

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Image: Bruce Conner and Edmund Shea, *SOUND OF TWO HAND ANGEL*, 1974; collection Tim Savinar and Patricia Unterman; © 2016 Conner Family Trust, San Francisco / Artists Rights Society (ARS), New York and Edmund Shea Trust



A close-up profile shot of Jonathan Rose, a man with a grey beard and glasses, looking thoughtfully towards the left. He is wearing a light blue button-down shirt. The background is a bright, hazy sky.

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